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SERUMTHERAPY IN CROUPOUS PNEUMONIA.*

J. C. WILSON, M.D.

Professor of the Practice of Medicine and of Clinical Medicine in the Jefferson Medical College.

PHILADELPHIA.

It is a matter of history that the diplococcus discovered in human saliva by Sternberg in 1880 and shown to produce in rabbits fatal septicemia, was found by Fraenkel a few years later to be almost constant in the rusty sputum of patients suffering from croupous pneumonia and in certain associated lesions. The confirmation of these observations by Weichselbaum led to the designation of this micro-organism as the "pneumococcus of Fraenkel and Weichselbaum." The rapidly following studies of Zaufal, Netter, Weichselbaum and others established the fact that the organism in question is present in the lesion of croupous pneumonia, the accompanying pleurisy, and in such intercurrent conditions as endocarditis, arthritis, middle-ear inflammations, parotitis, meningitis, pericarditis and others and in some cases of bronchopneumonia, orchitis, conjunctivitis and other inflammatory affections not necessarily associated with croupous pneumonia. It is, however, most commonly and closely identified with the last named disease.

The inoculation experiments of Netter in rabbits demonstrated the presence of the pneumococcus in the saliva of 20 per cent. of persons who had not had pneumonia, and in 82 per cent. of persons suffering from pneumonia. In the saliva of from 60 to 89 per cent. of persons who had passed through one attack of pneumonia, the pneumococci were shown to be virulent for varying periods extending over months and years—a fact which explains the common liability to subsequent attacks.

McFarland and Lincoln, who have recently written upon the subject, regard the evidence at this time as warranting the assertion "that about 75 per cent. of the cases of true croupous pneumonia are caused by the pneumococcus alone, about 15 per cent. by that organism in combination with the influenza bacillus, streptococcus, staphylococcus, colon bacillus, etc., and the remaining 10 per cent.—a very liberal allowance—by various bacteria other than the pneumococcus."

Netter found that in fatal cases the pneumococcus can be grown in cultures from the blood in the cavities of the heart. Kohn demonstrated it in 21.8 per cent. of a series of cases in the blood drawn from the veins of the arm, in patients suffering from croupous pneumonia, and concluded from an analysis of the cases that its presence in the blood adds greatly to the gravity of the disease.

Inoculation experiments have established the fact that intravenous or intraperitoneal injection of the pneumococcus does not give rise to pneumonia but to a general septicemia frequently associated with purulent pleurisy or pericarditis; while in some few instances the lesions of croupous pneumonia have followed direct inoculation of the lung through the chest wall.

These facts viewed in connection with the familiar phenomena of croupous pneumonia warrant the assumption that the disease arises from direct infection of the lung via the air-passages, the extensive exudate developing in the vesicles and terminal bronchi, and being, to use the phrase of Lambert, "practically outside of the body so far as the tissues themselves are concerned." The exudate contains the pneumococci in rich culture, and as Welch showed, in their most virulent state. Into the surrounding blood-vessels and lymph-spaces are poured the toxins produced, apparently small in volume, as separable products, but of great intensity, as shown by the common severity of the symptoms. The pneumococci, however, tend also to enter the circulation and cause a septicemia—a general pneumococcus infection of the entire body. The clinical picture is made up of the symptoms caused, on the one hand, by the mechanical disturbances due to the exudate, and on the other by those due to the toxemia, and varies as these respectively predominate. The gravity of any given case may be due to a massive exudate or to intense toxemia; but the fact must not be overlooked that the more extensive the exudate the more abundant the toxins produced. The variable virulence of the pneumococci in different instances may be invoked in default of other explanation to account for cases of massive exudate with comparatively mild general symptoms or limited local lesions with intense constitutional disturbances. General bacterial invasion of the blood in certain cases adds a new set of phenomena to those already present and serves to explain the gravest symptoms, distant local infections, exudative and suppurative processes and in many instances the fatal issue.

The knowledge of the bacteriology and pathology of croupous pneumonia, thus gradually acquired, has at each point of advance made it a more tempting field of investigation for the student of serumtherapy.

The worker in the laboratory here finds problems of the greatest intricacy, the solution of which gives promise of results of the highest practical value. The clinician awaits with eagerness this solution and the practical application of the results. The state of the subject at the present time is encouraging as to the future of serumtherapy in pneumonia.

The limits of this communication forbid any extended review of theoretical considerations. Suffice it to say that the earlier investigators, namely, the Klemperers, and those who immediately followed them, used in their

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experiments filtered cultures, cultures sterilized by heat or by antiseptics, glycerin extracts, etc., and produced an antitoxic serum; while the more recent workers, Washburn, de Rienzi, Pane, Lambert, and McFarland, have produced a serum by immunizing animals to increasing doses of live virulent cultures, until, as in the case of McFarland, a tolerance on the part of the horse to 100 c.c. of a very virulent culture has been established. These sera are anti-infectious. Lambert states that "the action of all pneumococcus sera which have so far been developed is to act within the blood-vessels and prevent a general septicemia, having apparently but little influence on the exudate." McFarland, on the other hand, expresses the hope "that the serum will be of use in the therapeusis of croupous pneumonia, exerting its effect upon the bacteria engaged in the pneumococcic processes in the lung, and that its immediate effects will be the reduction of temperature, strengthening of the pulse, production of an early crisis, and above all the prevention of the frequent accidental metastatic inflammations so common in the disease."

During the last four years a considerable number of cases of croupous pneumonia have been treated with antipneumococcus serum by different observers. On the whole the results are not discouraging, as regards the death-rate, the immediate effect on the symptoms or the course of the disease. De Rienzi reports a series of thirty-two cases with twenty-nine recoveries and three deaths. Numerous observers report improvement in the general condition and subjective sensations of the patients; lowering of the temperature and improvement in the pulse, without immediate crisis or shortening of the duration of the attack.

In February last Dr. McFarland placed at my disposal antipneumococcus serum prepared in his laboratory to be delivered fresh at such times and in such quantities as might be required for the treatment of cases of croupous pneumonia in the German Hospital in Philadelphia. The treatment has been carried out under my direction in a series of eighteen cases by Dr. Page, assistant physician to the hospital, and my residents, Drs. Moore and Uhle. I desire to express my thanks to these gentlemen for the interest and skill they have manifested in conducting the observations, and especially to Dr. McFarland for the opportunity of making them.

The extreme variations in the course of the attack and in the mortality of croupous pneumonia as modified by the age of the patient, his habits, previous health, antecedent disease and complications, render general statistics wholly unreliable in determining the efficacy of any plan of treatment. I therefore submit brief clinical histories of the cases, recognizing that the results can not be regarded as conclusive, but venturing to hope that as a contribution to the clinical study of serumtherapy they are not without value.

It is important to state that the serum was not used in these cases to the exclusion of other treatment. On the contrary, individual patients were treated in accordance with the usual plan in my service at the German Hospital, namely, by the systematic administration of Dover's powder; the application of ice bags to the affected region of the chest; the use of calomel, strychnia, alcohol, inhalations of oxygen when necessary, and such other symptomatic treatment as seemed judicious, in response to the indications in individual cases. The injections of serum were given in most instances directly after the patient's admission to the ward. In some few cases a delay of several hours arose in order that fresh serum might be obtained.

CASE 1.—G. B., admitted Jan. 15, 1900, 23 years of age, single, male, Scotch, window-washer. Family history negative. Previous history: Scarlet fever in childhood; probably syphilis, alcohol in moderation.

The patient was admitted on the second day of the disease; his temperature was 103.4 F.; pulse 104; respiration 54. Onset sudden with chill and stabbing pain in right side of chest. Herpes on penis; crepitant râles and friction rub; tactile fremitus increased at right and left base. Pleurisy very marked. Signs of an effusion appeared on right side on the seventh day. Rusty sputum containing pneumococcus. Urine albuminous without casts, which disappeared before discharge.

Treatment.—Ice-bags to chest. Pulv. Doveri 0.3 every three hours. Serum started on fourth day of disease. Temperature 102.6 F.; respiration 36; pulse 104. Ten c. c. of serum was given hypodermically about every five hours. He received in all 19 doses, extending over a period of eight days. Temperature gradually lowered to 101 on the eighth day, then became septic and empyema was diagnosed. Transferred to surgical ward and operated upon.

Temperature not affected by serum but respiration and general condition improved after first few doses. Patient slept after nearly every dose. Blood counts were made before serum was given and daily afterward. It is interesting to note that before serum was given the white blood-corpuscles numbered 23,200. After three injections they were 42,400, and remained at this point for three days, when the serum was omitted for twenty-four hours, and the leucocytes dropped to 23,320. Upon resuming the serum the leucocytes again became 44,000. Patient discharged cured March 15.

CASE 2.—F. C., admitted Feb. 19, 1900, aged 24 years, male, Italian, laborer. Family and previous history negative.

He was admitted on the sixth day of the disease. Temperature 101.2 F.; pulse 90; respiration 37. Herpes on lips; cough, painful in right chest. Dulness and tubular breathing over right upper lobe; crepitant râles at right lower lobes; impairment of resonance at left base. Heart—pulmonary second sound accentuated; no murmurs. Jaundiced on second day after admission.

Treatment—Ice-bags; pulv. Doveri 0.3; strychnia sulphate 0.002; whisky 15 c.c. every three hours. Serum treatment begun on eighth day. But two doses were given of 10 c.c. each. Temperature normal by crisis in twenty-four hours; no collapse. Uneventful recovery. Urine showed albumin and casts. No sputum or blood reports. Patient discharged March 7.

CASE 3.—A. E., admitted March 4, 1900, aged 23 years, single, male, U.S.A., spinner. Family history negative. Previous history, smallpox.

He had been ill with grippe for three weeks. Three days before admission he had a chill and stabbing pain in right chest. Cough with rusty sputum. Tubular breathing; increased fremitus and flatness over base of right chest; a few fine râles; no friction rub. Sputum showed pneumococcus present. Urine showed albumin and casts; chlorids decreased. Blood examined on seventh day showed hemoglobin 55 per cent.; red blood-corpuscles 3,770,000; white, 12,500.

Treatment.—Ice-bags; pulv. Doveri 0.3; strychnia 0.002; whisky 15 c.c. every three hours. Serum begun on fifth day, evening. Temperature 101.6 F.; pulse 84; respiration 40. Six doses of serum, 10 to 15 c.c. each, about every six hours. Temperature normal in twelve hours. Treatment stopped. Temperature rose to 100 F. but returned to normal in two days without more serum. Recovered. Discharged March 19.

CASE 4.—H. R., admitted March 4, 1900, aged 15 years, single, U.S.A., office boy. Family history: Mother, one brother and grandfather phthisical. Previous history negative.

Onset sudden with chill and stabbing pain in right chest. Cough with rusty sputum. Admitted fifth day. Temperature 101.2 F.; pulse 116; respiration 46. Base of both lungs dull posteriorly; dulness higher on left side. Increased fremitus; tubular breathing and râles over both bases; no herpes. Sputum showed pneumococcus present. Urine was albuminous; no casts; chlorids diminished. Blood examination, seventh day, hemoglobin 50 per cent.; red blood-corpuscles 4,250,000; white 8500.

Treatment.—Ice-bags; pulv. Doveri 0.3; whisky 15 c.c. every three hours. Serum began on sixth day. Six doses were given of 10 and 15 c.c. every five hours. Temperature 103.2 F.; respiration 38; pulse 104. Temperature normal on seventh day after five doses of serum were given. Recovered. Discharged March 18.

CASE 5.—W. H., admitted March 20, 1900, aged 39 years, male, married, U.S.A., salesman. Family history negative. Previous history: Tubercular testicle removed at German Hospital one year previous.

Present illness began suddenly with severe chill, great prostration, cough, rusty sputum, stabbing pain in left chest. Admitted second day. Temperature 103.6 F.; pulse 108; respiration 32. Tubular breathing over base of left lung posteriorly. Dulness increased. Fremitus, râles and marked friction rub. Urine contained albumin and casts; chlorids decreased .1 per cent. Sputum showed pneumococci; no tubercle bacilli. Blood showed hemoglobin 75 per cent.; red blood-corpuscles 4,290,000; white 16,000, third day.

Treatment was as usual. Serum begun at once, 9 doses of 20 c.c. each every three hours. Temperature 99 F. on sixth day. Serum stopped. Two days later patient became delirious, cyanotic and jaundiced. Right apex found solid and the seat of a well-marked pneumonia. Temperature 103.4 F.; respiration 52; pulse 120. Blood showed hemoglobin 71 per cent.; red blood-corpuscles 3,650,000; white, 20,000. Serum resumed as before, 14 doses of 20 c.c. each every three hours. Temperature normal in two days. Recovered. Discharged April 19.

Horse 628.—Bled Feb. 3, 1900, used March 20.

CASE 6.—J. VanD., admitted March 24, 1900, aged 28 years, male, single, Holland, laborer. Family and previous history negative.

Onset sudden with chill and stabbing pain in right chest; cough and rusty sputum. On admission, the second day of disease, temperature 104 F.; respiration 46; pulse 112. Entire right lung solid. Very delirious and cyanosed.

Treatment was as usual and oxygen every half hour. Serum not begun until third day. Three doses were given of 20 c.c. each every three hours. No influence on temperature or symptoms. Died in twenty-four hours.

Post-mortem confirms diagnosis. No other lesions found.

Horse 628.—Bled Feb. 3, 1900, used March 24.

CASE 7.—G. D., admitted March 27, 1900, aged 25 years, male, married, U.S.A., blacksmith. Family history negative. Previous history: Bronchitis three years previous; tobacco to excess; alcohol habitually in moderation.

Present Illness—Grippe for two weeks; recovery. Five days before admission had a chill and pain in left chest; cough, rusty sputum.

On admission, the sixth day of attack, the temperature was 102 F.; pulse 98; respiration 36. Great prostration; cough and pain; rusty sputum; herpes on lips. Dulness at base of left lung up to angle of scapula. Increased fremitus; tubular breathing; many râles and a friction rub. No friction rub heard in right lung over lower lobe. Sputum contained pneumococcus. Urine showed albumin and casts; chlorids normal. Blood—Eighth day, hemoglobin 75 per cent.; red blood-corpuscles 4,810,000; white 21,000.

Treatment was as usual. Serum begun on seventh day, five doses of 20 c.c. each, every three hours. On beginning, the temperature was 101 F.; pulse 88; respiration 32. The temperature became normal in twenty-two hours from beginning of serum treatment. Recovery. Discharged April 13.

Horse 628.—Bled Feb. 3, 1900; used March 27.

CASE 8.—W. B., admitted March 27, 1900, aged 42 years, female, single, Ireland, dressmaker. Family history—Sister died of phthisis. Previous history—Pleurisy seven years ago.

Present Condition—Grippe for two weeks before admission. Three days before admission suddenly taken with chill and pain in left chest, with cough.

On admission the temperature was 103 F.; pulse 120; respiration 40. There was cough with rusty sputum; pain in left chest; dyspnea; delirium; tenderness over gall-bladder; markedly cyanosed. Left lung expansion diminished; fremitus increased; dulness posteriorly over whole lung. Bronchial breathing; râles at end of expiration. Right lung edematous; numerous râles.

Blood examination showed hemoglobin 65 per cent.; red blood-corpuscles 3,890,000; white 8500. No urine report. Sputum contained pneumococcus.

Treatment was as usual. Serum begun on fifth day, six doses, 20 c.c. each, every three hours. All symptoms improved until the seventh day except pulse. Temperature suddenly went up to 105 F.; pulse 160; and death ensued on the third day after admission.

Horse 628.—Bled Feb. 3, 1900, used March 28.

CASE 9.—J. R., admitted April 4, 1900, aged 26 years, male, single, U.S.A., cigar-maker. Family history negative. Previous history—Enteric fever one year ago; tobacco and alcohol to excess.

Present illness began suddenly with chill and stabbing pain in right side; painful cough and dyspnea.

He was admitted on the fifth day. Temperature 103.4 F.; pulse 120; respiration 40. Herpes on lips; dyspnea; markedly cyanosed; delirious. Tubular breathing, flatness and increased fremitus over right lung except apex anteriorly. A few râles heard over both lungs. Friction rub over right lung. Blood count on eighth day of disease showed hemoglobin 75 per cent.: red blood-corpuscles 3,850,000; white 25,000. Sputum contained pneumococcus. Urine contained albumin; granular and hyaline casts.

Treatment was as usual. Serum begun at once on fifth day. Ten doses, of 20 c.c. each, every three hours. Temperature dropped to 100 F. in two days. All symptoms improved. Temperature ended by lysis, reaching normal on the fourteenth day. Pleurisy continued, and signs of effusion at base of right lung appeared on eleventh day and was absorbed before discharge. Recovery. Discharged April 25.

Horse 5597 G—Bled March 28, 1900; used April 4.

CASE 10.—J. F., admitted April 4, 1900, aged 30 years, male, Ireland, cigar-maker. Family and previous history negative. Alcohol at times to excess.

Present illness began suddenly with severe chill, pain in left side and dyspnea. Remained at home for two days without treatment, then walked to hospital. Admitted on third day. Cyanosed; herpes on lips; rusty sputum. Temperature 103.8 F.; respiration 42; pulse 128 and irregular. Lungs: Right lung, clear except for a few râles at base posteriorly. Left lung flat all over except at apex anteriorly. Pure tubular breathing and a few fine râles. Marked friction rub, heard best in axilla.

Urine showed albumin, hyaline and granular casts. Sputum contained pneumococcus. Blood count, fourth day, showed hemoglobin 75 per cent.; red blood-corpuscles, 3,730,000; white 28,000. Fifth day, hemoglobin 70 per cent.; red blood-corpuscles 3,780,000; white 20,000.

Treatment was as usual. Patient received serum, 20 c.c., every three hours and seemed to improve except that he was persistently cyanosed. After thirty-six hours, he became wildly delirious and died in that condition April 6 after a fit of screaming.

Horse 497 G—Bled March 28, 1900, used April 4.

CASE 11.—A. T., admitted April 19, 1900, aged 25 years, male, single, Jamaica, laborer. Family history negative. Previous history: Malaria several times; rheumatism twice. Syphilis. Alcohol in moderation.

Present illness began suddenly with fever and chill, stabbing pain in left chest, great prostration and dyspnea.

He was admitted on fifth day. Temperature 104F.; pulse 100; respiration 36. Intense dyspnea; no herpes; cough; rusty sputum; delirium; sharp pain over base of left lung. Left lung flat at base posteriorly up to angle of scapula; increased fremitus; fine crepitant râles at end of inspiration; tubular breathing.

Sputum showed pneumococcus present. Urine contained albumin, no casts. Blood, sixth day—hemoglobin 60 per cent., red blood-corpuscles 3,920,000, white 24,000.

Treatment was as usual. Serum begun at once, ten doses of 20 c.c. each every three hours. Temperature normal in thirty-six hours.

Patient developed an abscess in right thigh at seat of serum injections. Incised, drained; healed rapidly. Recovery. Discharged May 5.

Horse 736 B—Bled April 10, 1900, used April 17.

CASE 12.—J. M., admitted April 21, 1900, aged 38 years; female, married, U. S. A., housework. Family history: One brother died of phthisis. Previous history negative.

Present trouble began two weeks before admission, with sore throat and other symptoms of influenza. Five days before admission she had a chill, with stabbing pain in left chest; cough. No rusty sputum or dyspnea.

On admission, sixth day, temperature 103.8F.; pulse 104; respiration 38. Cough, pain in left chest; purulent sputum, herpes on lips. Dulness anteriorly over right lung; increased fremitus and tubular breathing over upper lobe anteriorly and posteriorly. Râles over both lungs at upper lobes. Impaired resonance over upper lobe of left lung. Both bases clear.

Urine contained albumin, no casts. Blood, sixth day, before serum injections, hemoglobin 45 per cent., red blood-corpuscles 3,130,000, white 15,000. Three hours after first injection, hemoglobin 45 per cent., red blood-corpuscles 3,190,000, white 17,000.

Treatment was as usual. Three doses of serum, 20 c.c each, every three hours. Temperature normal in eighteen hours. Convalescence uneventful. Discharged May 2, recovered.

Horse 736 B—Bled April 10, used April 21.

CASE 13.—J. W., admitted April 23, 1900, aged 19 years; female, colored, single, U. S. A., housework. Family and previous history negative. Present illness: Influenza one month previous. Recovered. Five days before admission taken sick again. Onset: vomiting and pain in right chest and abdomen. Two days later, chill, fever, cough, expectoration, sweating, pain in chest. On admission, third day, temperature 104.8F.; pulse 106; respiration 36; rusty sputum, intense dyspnea, restlessness. Dulness anteriorly and posteriorly over upper lobe of right lung, base clear; bronchial breathing; fremitus increased; râles over dull area.

Sputum showed pneumococcus present. Urine contained albumin; no casts. Blood fourth day, before serum injection, hemoglobin 55 per cent.; red blood-corpuscles 3,660,000; white 22,000.

Treatment as usual. Serum started on fourth day, 12 doses, 20 c.c. each, every three hours. When begun temperature was 105.4F.; pulse 120; respiration 40. Temperature normal in forty-eight hours. Recovery. Discharged May 10.

Horse 497 H—Bled April 6, used April 24.

CASE 14.—R. B., admitted April 24, 1900, aged 19 years; male, single, U. S. A., laborer. Family and previous history negative. Present illness began sixteen days before admission with sudden onset, chill, headache, nosebleed, cough, bloody sputum, dyspnea and stabbing pain in right side. No herpes. Felt better the next day and went to work, but the following day all symptoms returned with greater severity and continued until admission. On admission temperature 102.6F.; pulse 116; respiration 34. Complains of pain on coughing and deep inspiration in upper abdomen; no expectoration; headache; dyspnea and malaise. Heart: Soft mitral systolic murmur; pulse irregular. Lungs: Right lung flat at base, extending laterally to mid-axillary line; impaired resonance at apex; vocal fremitus increased over apex anteriorly and posteriorly, absent over base posteriorly. Breath sounds absent over base posteriorly. Tubular breathing at angle of scapula. Fine râles heard. Left lung normal.

Sputum showed a few pneumococci. Urine contained albumin and casts. Blood three days after admission, before serum injection, hemoglobin 75 per cent.; red blood-corpuscles 4,030,000; white 4,400. Widal test negative.

Treatment was as usual. Serum begun the day after admission, three doses of 20 c.c. each, every three hours. Temperature normal in three days. Rapid lysis. Recovery. Discharged May 10.

Horse 497 H—Bled April 6, used April 26.

CASE 15.—G. C., admitted April 25, 1900, aged 48 years, male, single, U. S. A., gardener. Family history negative. Previous history: Smallpox, enteric and scarlet fevers; alcohol and tobacco habitually.

Present illness began one week before admission with symptoms of grippe. Five days before admission had chill and stabbing pain in right chest; dyspnea; rusty sputum.

On admission temperature 102F.; pulse 112; respiration 36. Fifth day cyanosed with intense dyspnea; painful cough; rusty sputum. Heart: No murmurs; pulmonary second sound accentuated. Lungs: Consolidation of base of right lung; friction rub in axillary region. Sputum revealed pneumococcus. Urine contained albumin and casts. Blood: fifth day hemoglobin 50 per cent.; red blood-corpuscles 3,260,000; white 20,000.

Treatment was as usual. Serum begun on sixth day, three doses of 20 c.c. each every three hours. Temperature normal in nine hours. Recovery. Discharged May 9.

Horse 497 H—Bled April 6, used April 26.

CASE 16.—C. W., admitted May 13, 1900, aged 34 years, male, single, U.S.A., show-man. Family and previous history not obtainable. Had been property man in Buffalo Bill's show for five years, during which time health had been good. Malt liquors in moderation Weight about 200 pounds.

Present illness began eighteen hours before admission with a severe chill, pain in left chest and dyspnea.

On admission temperature 102.6 F.; pulse 120; respiration 50. Intense dyspnea; cough and rusty sputum; cyanosis. Pain in left chest. No herpes. Lower left lung solid; marked friction rub. Examination very difficult as any disturbance occasioned great cardiac distress. Urine showed albumin; no casts. Sputum had pneumococcus present. Blood: hemoglobin 76 per cent.; red corpuscles 4,390,000; white 15,000.

Treatment was as usual. Twenty doses of serum of 20 c.c. each, every three hours. Patient seemed to be improving but suddenly became very delirious, cyanosed and died very suddenly four days after admission.

Horse 497 T—Bled April 30, used May 13.

CASE 17.—A. P., admitted May 2, 1900, aged 19 years, male, single, U. S. A., machinist. Family and previous history negative. Present illness began one week before admission with symptoms of grippe. Three days before admission was taken suddenly with chill; cough with rusty sputum and stabbing pain in left chest.

On admission temperature 105F.; pulse 124; respiration 50; delirious; very much cyanosed; no herpes. Heart: No murmurs; pulmonary second sound accentuated and metallic, pulse weak, quick and irregular. Left lung flat anteriorly and posteriorly all over. Tubular breathing everywhere except at base where for a few inches only harsh breathing and a few râles can be heard; fremitus increased; rusty sputum; no friction rub heard.

Treatment was as usual; 20 doses of serum given, 20 c.c each, every three hours. During the first twenty-four hours had to be stimulated nearly all the time. Right lung became very edematous and patient seemed to be dying. In forty hours the temperature reached 100F.; pulse 120; respiration 44. He seemed very much better and lungs began to clear. Temperature was slightly elevated for two weeks, probably on account of an abscess at site of serum injections, which was opened and drained, when temperature immediately became normal. Sputum revealed pneumococcus. Urine showed albumin and casts; at present only a trace of each. Blood: seventh day, hemoglobin 82 per cent.; red blood-corpuscles 3,430,000, white 37,000. Seventeenth day hemoglobin 60 per cent., red blood-corpuscles 2,890,000, white 21,000. Recovery. Discharged May 23.

Horse 736 B—Bled April 10, used May 3.

CASE 18.—T. D., admitted May 11, 1900, aged 23 years, male, single, Wales, weaver. Family history negative. Previous history: Diphtheria and scarlet fever. Habits good.

Present illness began with sudden onset, chill, stabbing pain in right chest, cough, bloody expectoration.

On admission, fifth day, temperature 104F.; pulse 120; respiration 46; herpes on lips; rusty sputum. Lungs: Tactile fremitus increased. Tubular breathing and flatness over lower right lobe, posteriorly. Sputum had pneumococcus present. Blood: eighth day, hemoglobin 70 per cent.; red blood-corpuscles 4,150,000; white 11,000. Urine was albuminous, with casts; later, trace of albumin; no casts.

Treatment was as usual. Thirteen doses of serum, 20 c.c. each, every three hours. Temperature normal in forty-two hours. At that time the temperature was 99F.; pulse 92; respiration 22. Recovery. Still in hospital.

Horse 497 T—Bled April 30, used May 11.

Of the foregoing 18 cases 2 were women, 16 men. The youngest was 15 years of age, the oldest 48. The patients were all working people, most of whom had occupation up to the time of the attack. There were no tramps, coal-passers or sots among them.

Eleven of the patients were natives of the United States, one of Scotland, one of Wales, one of Holland, one of Jamaica, one of Ireland, and two of Italy.

One patient, Case 13, was a colored woman. The remainder were white.

In three instances there was a history of previous attacks of pneumonia.

One patient was admitted on the first day of the attack, 3 on the second, 2 on the third, 3 on the fourth, 4 on the fifth, 4 on the sixth, and in one instance the day of the attack was not ascertained.

The temperature upon admission varied from 101.2 to 105 F. The pulse frequency upon admission ranged from 90 to 128, and in 16 of the cases was 100 or higher.

Albuminuria was noted in 15 cases. In 9 of these cases casts of various kinds, usually hyaline, were also present, and in one, Case 14, blood was present in the urine.

Blood examinations were made in 15 cases, usually upon the day following admission; in some instances later than this. In 13 of the cases there was very marked leucocytosis. In two the leucocytes numbered 8500. In one of these, Case 4, the defervescence was complete twenty-seven hours after the first serum injection; in the other, Case 8, admitted on the fourth day of the attack, death took place on the seventh day. This patient, a woman aged 42 years, weighed over 200 pounds. The attack followed influenza.

There was a reduction of the red blood-corpuscles in all cases, usually moderate. The amount of hemoglobin was notably reduced in every instance, the least reduction being, in Case 16, to 76 per cent., and in Case 17 to 82 per cent.

Rusty sputum was present in 17 cases. In Case 12, admitted on the sixth day, the sputum was purulent.

The pneumococcus was reported to be present in the sputum of 15 cases. In Case 2, and in Case 6, no report was made, while in Case 12 it is distinctly stated that no pneumococci were found.

The summary of the dosage is interesting. In the earlier cases, it was given somewhat timidly, and at considerable intervals, the effect being closely watched. Later it was given freely and rapidly. In the first four cases the age of the serum, that is, the period that had elapsed from the time the serum was taken until its employment therapeutically, was not ascertained. In the subsequent cases it was known and recorded. The serum in all the cases was administered hypodermically. The total quantity varied from 20 c.c., in Case 2, to 460 c.c., in Case 5. Three cases received 400 c.c., or more. The administration extended over a period varying from six hours, in Case 6, to eight days, in Case 1. The age of the serum, as above stated, varied from seven to fifty-three days. The immediate effects were more favorable and more marked in recently-drawn serum than in that which had been drawn for longer periods. They consisted in general in lowering the temperature and pulse frequency, mitigation of pain and tendency to drowsiness. Several of the patients expressed themselves as feeling better after the injection and seemed to be anxious for the time when it should be repeated. There were no effects observed that could be ascribed to the trikresol present in the serum.

Of the 18 cases, 4 died, a mortality of 22.2 per cent. In two of the fatal cases, 6 and 10, no improvement followed the administration of the serum. In Cases 8 and 16, it is noted that slight improvement followed the earlier administrations of the serum, but that the later injections were without effect.

The defervesence was usually by crisis or rapid lysis. The duration of the attack varied from five to fourteen days, the majority of the cases coming to an end on the sixth, seventh or eighth day.

Of the 4 fatal cases, death occurred in 2 on the fourth day of the attack, in 1 on the fifth, and in 1 on the seventh. In three of these cases, 6, 10, and 16, the patients were alcoholic. In Case 8, no information concerning the previous habits of the patient could be obtained. In 6 of the cases that recovered there was a history of habitual excesses in alcohol.

The average duration of the stay in the hospital of 13 of the 14 cases that recovered, was 20½ days, one patient remaining in the ward at the time of the writing of the paper.

It is interesting to note that of 20 patients treated in my service in the men's medical ward at the Pennsylvania Hospital during the same period, on the same general plan, but without serum injections, 4 died, a mortality of 20 per cent. In this series, 8 of the patients, including the 4 fatal cases, were intemperate. No conclusions as to the effect of a plan of treatment can, however, be drawn from a limited series of cases.

DISCUSSION.

DR. A. O. J. KELLY, Philadelphia—In connection with this important communication by Dr. Wilson I should like to report briefly for Dr. John H. Musser and myself, a single experience with the use of the antipneumococcic serum in the treatment of croupous pneumonia. A man, Charles D., 30 years of age, a native of Pennsylvania, and a lead-worker by occupation, was admitted to the Hospital of the University of Pennsylvania, to the service of Dr. Musser, March 9, 1900. He had been a hard worker all his life, constantly exposed to the inclemencies of the weather, and he had consumed alcohol to great excess. He had had at least two attacks of delirium tremens, and was reported to have been more or less under the influence of alcohol for a long time. On his admission to the hospital, it was ascertained that the patient had been complaining of cough and general malaise for two weeks. On Saturday evening, March 3, he went on one of his customary debauches, and continued drinking until the following Monday morning. On the evening of this day, March 5, he was taken with a severe chill, which lasted twenty minutes, but chilly sensations continued throughout the night. From this time until his admission to the hospital, he complained of pain in his right chest, cough, rusty expectoration, dyspnea, and fever. On admission to the hospital his temperature was 102.4 F., his pulse-rate 100, and his respirations 45. He was markedly cyanosed, revealed a blue line on his gums, and presented well-marked physical signs of consolidation of the right lung. There were also heard superficial to-and-fro friction sounds that were attributed to a concomitant pleuritis. The heart was negative with the exception of a systolic murmur at the base. Examination of the urine revealed a specific gravity of 1024. It was dark-amber in color, slightly turbid, and acid in reaction. It contained no sugar, nor indican; albumin was present in small amount; the chlorids were apparently normal. Microscopic examination revealed a few pus-corpuscles but no casts. Examination of the blood revealed hemoglobin 84 per cent., erythrocytes 4,300,000, and leucocytes 6770. The treatment instituted consisted of the local application of cold, the internal administration of carbonate of ammonium, whisky and strychnin, and a single hypodermic injection of morphin (1/32 grain). The following morning, with the exception that his respirations had increased to 56 per minute, the patient's condition had not changed. At 1 p. m., however, he became much worse, complained of extreme pain in the left side; his

respirations had increased to 62 per minute. Physical examination of the chest revealed the signs of consolidation of the lower lobe of the left lung. Another hypodermic injection of morphin relieved the pain. Delirium, which was slight before, now became very marked, casts were detected in the urine, diplococci were found in large numbers in the sputum, and friction râles were heard over the pericardium. In view of the hopeless character of the case under ordinary circumstances, it was determined to try the effect of the antipneumococcic serum, which was very kindly placed at our disposal by Dr. Joseph McFarland. Injections of 20 c.c. each were given every three hours, commencing at 7 p. m., March 10. Only seven injections were given, because of the lack of serum. The leucocytes, which on admission had numbered 6770, just before the first injection numbered 17,360 per cubic millimeter. A half hour after each succeeding injection they numbered 16,420, 15,120, 19,420, 23,760, 24,520 and 29,400 respectively. At 6 p. m. March 11, they numbered 27,300, at midnight 28,200, and shortly before the patient's death, which occurred at 8 a. m. March 12, they numbered 33,400. The necropsy, which was performed by Dr. Flexner, revealed acute fibrinous pneumonia of the lower lobes of both lungs, extensive bilateral fibrinous pleurisy, chronic adhesive pleurisy of the right side, acute fibrinous pericarditis, acute splenic tumor, cloudy swelling of the liver and kidneys, slight atrophy of the cortex of the kidneys, moderate arteriosclerosis, and softening of the bronchial lymph-glands. I can not persuade myself that the serum was of any material value whatever in this case, but I admit that in view of the necropsy findings it is not likely that any treatment with which we are acquainted could have been of the slightest utility. The action of the serum, however, seems favorable rather than otherwise. The patient's general condition appeared to improve a little after each injection, but this may have been fanciful, as the pulse-rate and the respiration-rate gradually increased; the former reached 148, and the latter 72 per minute. Delirium also became active and ceased only a short time prior to death, when extreme exhaustion supervened. The serum, however, seemed to exert a marked influence in the production of leucocytosis. I am not unmindful of the fact that this may have been more apparent than real. It may possibly have resulted from the reaction of the body to the infection of the second lung, which became involved a short time prior to the commencement of the injections. But this is not likely. The treatment seems to merit further trial.

DR. DELANCY ROCHESTER, of Buffalo—I rise to report a case in this connection of some interest because it bears upon the serum-therapy of pneumonia. About eight years ago, in the service of Dr. Charles Stockton, in the Buffalo General Hospital, there was a case of lobar pneumonia, and shortly after recovery another case entered the hospital. We were experimenting at that time and, with the permission of the patient, we blistered the convalescent patient and injected the serum thus obtained into the sick one. I do not remember the details of the case, but there was a decided improvement in the patient's condition for twenty-four hours. We were unable to obtain enough serum from the patient, but the evidence so far adduced in the use of the antipneumococcic serum points to the fact that we will yet have an agent of much value, when sufficiently concentrated, and when given in large enough doses. In the use of the antidiphtheric serum good results follow large doses, and I think the same thing will apply if larger doses of the antipneumococcic serum be used.

DR. MCFARLAND, Philadelphia—We found that small doses of the serum did but comparatively little good; it should be administered *ad libitum* until a large total amount of the serum is given. We are by no means certain as to the nature of the serum, and at present there is no accurate way of measuring its strength. The serum is prepared by administering living cultures of the pneumococcus to the horse. The pneumococcus is a difficult organism to cultivate, and its virulence is so quickly lost that one is never certain of the nature of the culture that he is administering to the horse. The best method by which the pneumococcus is kept virulent is by growing it alternately on artificial culture-media and in animals. The nature of the serum is uncertain. It may be antitoxic or antimicrobic, probably antimicrobic. While it is true that the serum of diphtheria and tetanus are specific for the respective diseases, there are proofs that the antipneumococcic serum is not specific for pneumonia but may be equally operative upon other microbic infections. I can cite for you an interesting observation made upon a horse which was immunized to the pneumococcus for four to six months, and one day received by mistake a large dose of the streptococcus culture. The dose should have killed it, but no ill effects followed. This leads me to believe that the serum is not specific for pneumonia alone. It is difficult to estimate the strength of the serum and it is natural to conclude that the number of theoretical observations made depend on the serums used and on their different strengths. The early observations on the pneumococcic serums are entirely useless. To administer 10 c.c. of serum from a convalescent patient is perfectly ridiculous; the patient is not getting any appreciable amount of the antitoxin. I have hesitated to use the intravenous method of injecting the serum, on account of the fact that the increased coagulability of the blood in pneumonia might lead to thrombosis. Later on we may find that this is the necessary mode of treatment. The serum should be fresh. Dr. William Park, of New York, urged that the serum should not be kept longer than six weeks, on account of losing its germicidal power. At the present time the whole subject is a very vague one, but the result of animal and culture observations indicates that the subject is one deserving much future investigation.

PSEUDO (?) OR MODIFIED (?) SMALLPOX.*

T. J. HAPPEL, M. D.
TRENTON, TENN.

The diversity of opinions in regard to the eruptive disease that has prevailed throughout the United States during 1899, has atracted much attention. My having had a personal experience with at least two hundred cases in one of the large counties of Tennessee (Gibson), and a nominal supervision of fully one hundred more as county health officer, has induced me to report this epidemic as briefly as possible. My sole object is to provoke a discussion, in which we should be deeply interested, as smallpox has been regarded with no favor by medical men.

SOME FEATURES OF VARIOLA VERA.

Before entering directly upon the phase of the subject presented in this paper, I desire to review briefly some of the chief characteristics of variola vera. It has been defined as an acute contagious and infectious disease, communicable at any time from the first rise in temperature to the final desquamation of the patient, and even after death, by the body itself in the dead-room, or by the effluvia of the corpse, when disentombed years after burial. It may be communicated by the urine or feces of affected patients, or by the small particles of the cuticle or scabs thrown off during the desquamative, or desiccative period. It has been rightly termed one of the most communicable of all the eruptive fevers.

According to Osler, one of our best authorities on the subject, "The contagium develops in the system of the smallpox patient, and is reproduced in the pustules. It exists in the secretions and excretions, and in the exhalations from the lungs and skin." . . . "Smallpox is one of the most virulent of contagious diseases, and persons exposed, if unprotected by vaccination, are almost invariably attacked. . . . There are instances on record of persons unsusceptible to the disease." He adds, further, that in the fearful epidemic in Montreal, in 1885, 86 per cent. of the deaths were of children under 10 years of age, when there died in that city, of

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smallpox, within nine months 3164 persons. He holds that the nature of the contagium of smallpox is still unknown, and that it is a little remarkable that in a disease which is rightly regarded as a type of all infectious maladies, the specific virus should still remain undetermined.

Hartshorne, in "Reynold's System of Medicine," holds that the disease is communicable from the time of the initial fever till the last dry scale has disappeared; that in confluent smallpox the mortality is 50 per cent.; that in 2654 cases of the disease the mortality was 37 per cent., but that in this series of cases, the mortality in children under 5 years was 50 per cent., and from 40 to 60 years, 69 per cent., and from 70 to 90 years, 90 per cent.

Dr. Haygarth states that during his long attention to this subject, "Not a single instance had occurred to prove that persons liable to smallpox could associate in the same chamber with a patient with the disease without receiving the infection." "It is communicable in every way." "A single breathing of the air is sufficient." "It is communicable from the moment of the initial fever." It has been caught in the dissecting-room from dead bodies that have been prepared for use on the table. I might thus continue to cite authorities showing the infectious and contagious nature of variola vera; its fatality—the death-rate varying from 25 to 45 per cent.—the fact that the disease is especially fatal when it prevails among negroes; that with all classes in the extremes of life—infancy and old age—the mortality is very great.

Other points upon which all authorities agree are: the date of the eruption—the third day from the initial headache, backache and fever—the fact that this eruptive stage lasts about three or four days, and that the eruption is first papular, then vesicular, then pustular; that in the vesicular stage the points of eruption become flattened, generally umbilicated, and slightly shriveled —this condition being followed by a state of euphory on the part of the patient; that on the eighth day of the eruption the contents of the vesicles become completelv purulent, the eruption attains its greatest development and the vesicles become hemispherical and distended to their utmost, and the "suppurative, irritative or so-called secondary fever," begins, the temperature ranging from 102 to 105, or even higher; "that the mucous membrane of the mouth, fauces and larynx becomes most dangerously involved; that the vital forces of the patient are put to the severest test, and his life is placed in the greatest jeopardy"; that the cutis between the pustules becomes inflamed and the face, hands and feet swollen and disfigured far beyond that of the primary or eruptive stage; that pus begins to exude, and thick, yellow and dirty scabs and crusts form which, when removed, leave deep suppurating ulcers; that about the third day of the eruptive stage an intense itching sets in, and that this becomes almost unbearable in the suppurative stage when the crusts and scabs begin to loosen and fall off; that in the secondary fever we often have a muttering delirium; that it is frequently followed by deep-seated boils, and that most of the patients are left scarred and marked for life with pits at the sites of the points of eruption, especially on the neck, face and hands. These are points, as I have said, on which all authors agree.

THE EPIDEMIC AMONG NEGROES.

On June 1, 1899, I was called to Fruitland to see F., colored, aged about 35 years, supposed to have smallpox. I found the patient in one of the railroad section-houses sitting at a sewing-machine at work. I obtained the following history: In the latter part of April, or the first of May, a negro man came to the section-house from Mississippi, stopping in Jackson, Tenn., from one train to another, in a part of the city in which there had never been a case of smallpox. A few days after his arrival in Fruitland he became sick, went to bed in an adjoining house, and, "broke out," as the woman expressed it, "just as she was, but more so." She also told me he suffered before the eruption with headache, backache and fever; when the eruption appeared he was perfectly relieved from fever and pain, and in about two weeks was well and ready to go to work; that about the time he recovered, his wife became sick in the same way, only she was worse than he, and recovered in about the same time; that all of the colored inmates of the two section-houses freely mingled with these two cases, and that the white family, separated only by a fence, made no effort to maintain non-intercourse; that the head of the white family saw both of the sick negroes several times, and that the white children at the fence were frequently close to those who had just been in contact with the cases. None of the parties had ever been vaccinated; this fact I ascertained by an inspection of the arms. This woman stated that about four days before she was suffering with headache and backache, and called on her physician for something to relieve her; that finding some "bumps" on her face, he gave her some medicine and told her to keep in the house closely, as he suspected smallpox; that on the following day she was free from pain and fever, but that the bumps were still present, and that it was reported that she had smallpox; that she was not suffering at all, was, in fact, as well as she had been for months, and that there would have been no report or alarm had she not called for relief for her head and back, as her case was similar to the two reported, but much slighter. The eruption was found passing into the vesicular stage, with probably not more pain, and was at work, as has been stated. The disease was regarded as suspicious, and all the inmates of the section-house who could then be found were vaccinated, but the section laborers were away, and escaped vaccination at that time.

All were cautioned to remain on the premises, but were not quarantined or guarded. On June 21 I was again called to the section-house. I found a negro man about 30 years old with a confluent case of the eruption mentioned in the first case. He gave a history of headache, backache, fever, swollen face, hands and feet; eyes closed by the intensity of the inflammation; the papules discrete, but as numerous as possible; then, the vesicular stage, in which the blisters coalesced, forming large blebs, in many places larger than a silver dollar, with still larger ones on his hands and arms. Some of the blebs were fully 4x6. They appeared to involve only the most superficial layers of the cutis, and were unicellular. The patient did not claim to suffer at all, except from the natural soreness of the parts, blistered, as they were. He had no fever, could have been up but for the condition of his feet, hands and buttocks. He was more comfortable lying down. He was then in the seventh or eighth day of the eruption. A week or ten days later I saw him again. He met me at the fence, and claimed to be well. He had no secondary fever nor any complications. To-day there is not a pit or mark on his person, except some few stains on his face and arms due to a deposit or accumulation of pigment material in the skin. A few who were vaccinated on the first visit had typical vaccin sores. One of these escaped the disease, the balance were attacked Case

after case occurred in the two section-houses, never more than two at a time, till all but one or two had the disease. The two last seen by me were an old man, fully 70 years old, and a child about 4 years old. The old man's case was a reproduction of the second one, already reported, whilst the child's case was very similar to the first one. The child had been successfully vaccinated by me on June 2, and developed the disease in August. The old man gave an undoubted history of a successful vaccination in childhood.

July 23 I was called to a negro family in another neighborhood. This family had contracted the disease from a negro man who had visited the cases in Fruitland. He considered the disease of no importance till he had fully developed the eruption in the vesicular stage. Two families or more had then been in close contact with him. The family which I visited consisted of a man, his wife and three or more children. The two of the three children had had the disease in a mild form, leaving only maculæ on the cutis. If the youngest child had developed the disease, it was so mild that they did not discover it. The mother had broken out slightly on the Wednesday preceding my visit, which was made on Sunday. She was at church that day, just the fourth day from the date of the eruption. The man was then in the eighth day of his eruption. The points were conoidal, not at all inflamed around the base, and were discrete. He said that aside from the eruption, he was well; there was no fever, no loss of appetite. He had suffered from nausea and a decided sore throat. None of these parties had ever been vaccinated. On a subsequent visit I saw two families. In one, where the hygienic surroundings were good, the house being large and roomy, all the cases, some seven in all, had been very mild. None of these had been vaccinated, and not more than two at a time had developed the disease. In the other house I found a family of nine. The disease had existed in that house for a month or more, it having been contracted from the party who visited Fruitland. In this house two cases at a time was the rule. There had been six cases at the date of my visit, including the one just entering the eruptive stage. In some of these cases the headache, backache and fever had been severe and the eruption abundant, but after the first case no physician had been called, the mother stating that as soon as she discovered that she had to deal with a case of "the eruption" she felt easy, knowing that there was no danger. The mother claimed that she would not have the disease, as she had been vaccinated, but before the last case recovered she and the old grandmother, who had also been vaccinated, had a mild attack. Later on, in the same neighborhood, I visited a negress about 35 years old, who was suffering from the confluent type of the eruption. She gave a clear history of vaccination in her childhood. There were four children in the family. All were vaccinated, though in one or two there was "no take," yet all had the disease in a very mild form, the successfully vaccinated one having a severer attack than the baby under one year of age. In this settlement there were about forty cases. None were very sick; none were in bed for a longer time than four days, except the confluent case, which was confined for one week. When the disease first developed in this neighborhood, the first case, one of the severe ones, was visited by a physician, who carried his son, aged 4 years —who had never been vaccinated—into the negro cabin with him, where both remained nearly a half hour; neither contracted the disease. The fullblooded negro, except in one instance, alone suffered. In the excepted family, the negroes were almost white, and their attacks were very slight. Later on I vaccinated five of these children, of which number one had escaped in a large family. In this one the vaccination was successful, though he failed to have the disease, being exposed to it for at least six weeks. In another neighborhood, among families known as the Johnson families, there were about 30 cases—all black negroes. Two of these cases were confluent, the others discrete, being milder in proportion to the decreasing age of the subject. In one of these families three children, nearly grown, who had been vaccinated in March, 1899, escaped the disease, but the mother, who had a good vaccin mark, had a mild attack, and a daughter, who had never been vaccinated, escaped with not more than a dozen papules and vesicles. About one month after the complete recovery of two children in this series of cases, I vaccinated them. The result in one case was a typical vaccin sore, and negative in the other. I have reported now as briefly as possible the epidemic among the negroes.

AN EPIDEMIC AMONG WHITE PEOPLE.

On October 21 I was notified of the appearance of a case of the disease in one of the best white families in Fruitland. The source of infection was traced through a negro child. Her case proved to be a very mild, discrete eruption. On the eighth day of the eruption, when I saw her, she said that she was well, except the conoidal vesicular eruption. She had no fever, and from that day on desiccation progressed rapidly, and when seen on November 1, all of the eruption had disappeared, except the red elevated nodular base of the vesicle. On my first visit an effort was made to vaccinate all the members of the family. Some were conveniently absent from home. On November 1, I visited the family a second time, and found two new cases, the son, who had never been vaccinated, and a daughter with a typical vaccin sore, both mild, but the son much the milder of the two. Two other cases appeared, one that had been successfully vaccinated, the other not. The son who had the disease was afterward successfully vaccinated.

October 22, 1899, I was called to see J. H. A passing physician eight days before had called when he was suffering from headache, backache and fever, and when the eruption was just beginning to become vesicular, and had diagnosed the case as measles. The family suspected a mistake, and kept the case quiet. The report having gone out that the case was measles, those neighbors who had had rubeola visited the family, so that six families were exposed from the time of the initial fever till the date of my visit, several persons having been in the house and in the room after the eruption had become vesicular. My visit was made on the ninth day of the eruption. The patient was free from fever and sitting up in bed, able to eat all he could get; he said that he was well except the soreness of his hands, feet and buttocks. The eruption on his face was flattening and desiccating rapidly; that on his body was conoidal in shape, and filled with an opaque lymph; there was no pus, no itching nor other complaint.

There were ten inmates in this house at the time of my visit, besides the patient. All of these were vaccinated and notified that they must stay where they were or go to a pest-house. All were adults except one—a child of about eight months—five males and five females. Only two had been previously vaccinated—one in the sixties, the other before the war. The latter had a typical mark, well pitted; the other had a glazed cicatrix on the site of the vaccin sore. Every family that had been at all exposed was vaccinated—a total of

thirty. Two days later I returned to see the patient, and found him rapidly improving. Five or six days later I founl typical vaccin sores on seven of the inmates of the house, but the remaining three had "no takes." The patient was out of doors, all crusts or scales had dropped, and nothing remained of his disease except red, elevated points, which had been the bases of the original papular eruption. On November 31 two members of the family began to suffer with headache, backache and a rise in temperature, two others with slighter pains and the baby became fretful, with no assignable cause. On November 5 a papular eruption made its appearance on five of the inmates mentioned, changing rapidly to a vesicular one. On Tuesday I visited the family and found the baby with not more than fifty points of a conoidal eruption, the mother with probably twice as many—vaccination having failed completely on these two—a discrete eruption scant on the remaining three, but much severer on the two young men. The three had typical vaccin sores of a week's duration. The grandmother, who had been vaccinated before the war, and on whom vaccination had again taken well, suffered most from the localized pain in the bases of the eruptive points. Of the three who escaped, two had been successfully vaccinated, the other unsuccessfully. One of these quarantined persons had left the place, deeming it safe to return home, as his vaccin had proved a perfect success, but on the same day, November 4, the initial fever developed, and on November 6, the eruption came out severely; but as soon as it fully appeared, he got out of bed and claimed to be well. None of the other inmates were confined to bed at all, except about October 28, when one of the young men remained in bed about thirty-six hours with a sick-headache and a sore arm. When I visited them, November 7, all were up and free from fever. Bear in mind that all of these parties, ten in number, were exposed from October 13, the date of the beginning of the fever of invasion, till October 22, the date of my first visit; that on this date they were all vaccinated; that on the 28th or 29th six of them had typical sores, and that no eruption appeared on any of them till November 5 or 6, just fourteen days from the date of vaccination; and do not forget that the mildest cases were the mother and child, on whom the vaccination did not take. Not a case appeared in any of the six families exposed. In every family, save one, there were some failures in vaccination; in one of these cases in which vaccination failed, the child had been exposed to the case several times during the febrile and early eruptive stage. On November 1 a case in another white family was reported, and was at once visited by me. In this case no contact could be traced with a case of this disease—exactly as it was reported by the patient J. H.

This last case, Mr. C., gave a history of fever, headache and backache, followed by an eruption, beginning on October 28, the fever subsiding on the appearance of the eruption. This man had never been vaccinated. The eruption was smaller and more irregularly shaped than in any of the other cases, and on the face, especially the forehead, it was almost confluent. On the arms and lower limbs it was discrete and conoidal. The eruption had not fully passed the papular stage on the hands and feet, though the vesicles had assumed an opaque appearance on the face. The patient was out of bed, with a temperature less than 100 F., feeling well, and ready to eat anything and everything brought to him. Five members of this family were vaccinated, after many threats and much persuasion, and four had the disease.

These cases are reported in as brief a manner as possible, and sum up about eighty colored and eleven whites.

AN OUTBREAK IN ANOTHER PART OF THE COUNTY.

About November 15, a new point of infection was reported in the county, in an incorporated town. I was sent for; I reported to the authorities that the disease was what we had had in the southern part of the county; that the State Board of Health called the disease smallpox; that I didn't consider it variola vera, but in deference to the health authorities, advised isolation and vaccination without quarantine. The first cases were, as elsewhere, negroes. The families were vaccinated successfully, and kept in their own premises, but every one of them developed the disease.

The local authorities next discovered the disease in a white family that could not account for its presence. These were detained for about fourteen days at home, but refused vaccination, and one-third of the family developed the disease, the later cases being milder than the first. No further efforts were made to prevent the spread of the disease, and it was reported that nearly every negro in the town had the disease, and not less than twenty-five whites, making in all about 100 cases, with no deaths; though one old lady 76 years of age died from congestion of the lungs while suffering from a very mild eruption. The disease appeared in the only hotel in the place, all of the proprietor's family being attacked, but business was never suspended, the traveling public being received.

In a country district just east of this incorporated town the epidemic held undisturbed sway. I was never called in; nor were many vaccinated. They preferred the disease to vaccination, so they reported officially to me. Here, too, the disease ran its own course, gradually growing milder, killing no one. There were forty or fifty cases in that district.

In another town three colored families became infected. After the first case all were vaccinated, except the babies, but not one escaped the disease, the mildest cases being the unvaccinated babies. In one family two cases of a severe type developed twenty-one days after vaccination, followed by a typical vaccin sore. Here there were seventeen cases, with no deaths.

At another point, in a family of twelve negroes, there was only one case, and this was not discovered till the fourth day of the eruption, which, while discrete, was severe. The family had been constantly in contact with this patient, but during the day lived largely out of the house. The man went to his work on the fifth day, and so continued till he was turned loose. He is now spotted, but the maculæ are rapidly disappearing. Living in another house was a family of three men, one woman and a baby. One of these men contracted the disease from the same source as the last case reported. All were successfully vaccinated except the baby. All had the disease, the baby in a milder form than did any of the others. These cases were at the county seat, and had been mingling with other negroes till the appearance of the eruption, and yet no other cases developed. In another negro family with the disease, all unvaccinated except the father and mother, this disease was so mild that the children were sent home from a crowded schoolroom during the vesicular stage of the eruption, and returned before desiccation and desquamation had been completed. I personally inspected some of these cases; only one member of the family had been in bed,

and that for only one or two hours, when they thought she had a chill. The vaccinated mother finally had the disease as severely as any of the others.

The disease finally ceased in the county, without any special efforts to check it, save the isolation of the families. There were in all about 300 cases, the large majority of them being negroes. In those cases where the whites contracted the disease they appeared to suffer more than did the negro. The last cases in the county were negroes who had had the disease in their families for weeks before it was discovered. When at last found out they were transferred to a house of detention. There on April 26, 1900, I visited in person and closely examined them. One man, who had contracted the disease on April 10 or 12, was nearly well. His was reported to have been one of the most severe cases. It was claimed that he had secondary fever, but this was disproved fully. His face was thickly marked with dark, almost black, spots. The next case, a colored male, a syphilitic, was in the eighth day of the disease. The scales were already dropping off. His face presented a variegated appearance. His nose was almost double its natural size. Crusts were abundant, but no thick scabs, and no pus anywhere. His temperature and pulse were normal. This was a severe confluent case. When seen he was very busy disposing of a full breakfast of rice. Of the fourteen cases in the house, not one was in bed. The cases ranged from two days to two weeks in duration; the patients were from 1 to 50 years of age. They were about equally divided as to sex. With this number in a room just before it had been aired and swept there was not the least odor. The eruption varied in size from a grain of wheat to a large vesicle. The cases of the children were mild in proportion to their ages. All were hungry. Not one complained of anything except of being detained in the house. There was no itching. It has been my experience further, in two large families, where all the inmates had been unrestrictedly allowed to mingle with the one case of the disease up to the fourth day of the eruption, to have had no case except the first in either family. One family, with the exception of two or three members, was successfully vaccinated; the other unsuccessfully. One was white; the other colored. In another family the only two members who had contracted the disease had had variola vera in their younger days—one being well pitted. The epidemic has shown a decided preference for the colored race, and the history of these cases has shown that it is more easily communicated from one to another among negroes than among the whites; but this is easily accounted for by the difference in their hygienic surroundings.

CHARACTERS OF THE EPIDEMIC COMPARED WITH SMALLPOX.

The points of similarity in these cases and true smallpox have been brought out in the clinical histories. There is in some the same backache, headache and initial fever, papular eruption, followed by the vesicular, then becoming opaque, but in the large majority of cases having none of the appearance of pus. These vesicles have in many cases flattened, but lacked the peculiar umbilication, and when full of opalescent fluid were conoidal, not hemispherical, in shape. There was no puckering around the eyes. None of them ever had creamy pus in them, and in no case was there ever an ulcerated surface left upon the removal of a crust. The vesicles, no matter how confluent, went through a process of desiccation, not of suppuration—only the epidermis and a few superficial layers of the cutis being involved. There were no crusts, only thin scales. In not a single case was there any secondary fever, the highest temperature on or after the eighth day not reaching 100 degrees, though the family physician reported secondary fever on the sixth day before the eruption had fully matured, with a temperature of 100.3 degrees. In no case at the time the secondary fever should have developed was there any inflamed margin around any of the so-called pustules, nor even in the confluent cases was there any inflammation about the skin after the eighth day. The cutis between the sores on the body and the extremities was normal in appearance, and there was no inflammation about the face or hands after that date.

In every case with the appearance of the eruption the fever subsided, and the patient got out of bed, and so remained, except in a few confluent cases mentioned, where the patients were more comfortable in bed on account of the condition of the feet and hands. After the eruption appeared the appetite returned in all of the cases. In not more than 5 per cent. of the cases was there nausea or vomiting. Itching was absent in nearly all, especially was this so in those patients whose skin had been kept clean. In not more than a half dozen cases was there any pitting, and in these few cases the marks were due to the patient rubbing off the vesicles to hurry up the process of recovery, as they supposed. In the few marked cases, the skin is rapidly assuming a normal appearance. The cases are chiefly marked by maculæ, in the negro, caused by an undue deposit of black pigment in what had been the base of the papules; in the whites this pigment is reddish or purple. This gives to the face a spotted appearance, but, as in the case of the pits, the pigment is rapidly disappearing.

Vaccination has not seemed to exert any protective influence whatever, but as so few of the negroes have been vaccinated, it is difficult to draw any conclusions on this point, but I would especially call attention to the results of my experiments in vaccinating those who have had the disease. In one instance, when two were vaccinated there were a "take" and a failure, and in the second lot, where five were vaccinated, one, who had escaped the disease through a period of six weeks' contact with it, showed a typical sore, and another one a slight "take." Again, in parties who in childhood had been vaccinated, two of them had a confluent attack, and in at least two instances, children who had been vaccinated about one month previously contracted the disease. Lastly, where of ten vaccinated persons, with seven typical sores developing six days after vaccination, and where three of the same lot of cases entirely failed to "take," fourteen days after the vaccination and seven or eight days after the appearance of the vaccin sore only three had escaped the disease, one of these being one on whom vaccination had no effect, and the two mildest cases of the eruption being the baby and wife of the first case, the two having failed to show any vaccin sores at all. Again, two cases with vaccin sores twenty-one days old had severe attacks of the disease, and still again, of a family of ten persons, all of whom were vaccinated at the development of the first case, not one escaped the disease; and there was a duplication of this in another family. You answer that it has frequently been reported that parties who have had smallpox have been successfully vaccinated. "It is to be observed, however, that the smallpox has been experienced, in most cases many years before."[1] It is admitted by

1 N. Y. Record, July 5 and 26, 1879.

all that the more recent the vaccination, the more protective it is. Yet I found persons vaccinated a month and those vaccinated two weeks before the appearance of the disease equally affected. In my last series of cases, one that had a typical cicatrix, and was again vaccinated successfully, with the vaccin sore fully matured, conditions in which, according to Dr. Hare, protection is most easily afforded, had just as severe an attack as did any of the others in the house. The primary vaccination should have perfected it, yet the disease appeared, while one who had never been vaccinated, and on whom vaccination had failed in this group of cases, escaped.

Smallpox is communicable in every stage of the disease, while this disease becomes communicable only in the late vesicular, opaque lymphoid or pustular stage. This fact has been demonstrated in every case with which I had to deal. I have already cited families exposed in my last cases. Is this disease that has been so widespread true variola, such as we have met with for years—a disease having a death-rate of from 25 to 50 per cent., while this has none?

I find in examining medical works of old as well as recent dates but little reference to any eruptive disease corresponding with this. In Good's Study, published in 1829, Mr. Marshall reports what is called Kandayan Epidemic. While several cases made a near approach to varicella, all of them so far deviated from the ordinary character of the variolous secretion as to be devoid of a creamy and consistent pus, and rarely exhibited more than a whey-like matter, whether the eruptions were distinct or confluent, or the fever mild or severe. In other respects, Mr. Marshall observes, "the disease did not materially differ from the description given of the smallpox by systematic writers." These were mostly cases that had been preceded by vaccination.

Van Swieten has described a spurious or bastard variola under the name of *Steen-pochen* (Stone-pox), which he claims to have seen as frequently epidemic as the genuine variola, indeed, running apace with the latter, and sometimes succeeding it.

Reynolds,[2] under the head of "Variola Benigna," refers to Van Swieten's description "of natural smallpox under the title of Variola Verrucosa, or Cornea, Stone-pock, horn-pock and wort-pock, which we sometimes see in these days, and in which the disease is of a mild, modified character." He says: "These are examples of a mild, natural smallpox, such as have occurred no doubt at all periods to a few favored individuals, and in which, fortunately for the subjects attacked, the disease leaves no trace behind."

CONCLUSION.

Can this disease be called variola vera? The initial fever, backache and headache are the same, but all eruptive diseases have the same train of symptoms to a greater or lesser degree. In a large per cent. of cases of variola in this stage we have nausea and vomiting, with an inflamed condition of the mucous membrane, whilst in this epidemic this state of affairs has been the rare exception. In variola the eruption is, as a rule, more regular in its development. In this I have seen cases as late as the sixth day with vesicles still appearing. In variola the eruption is, as a rule, in the pustular stage, hemispherical; in this, in the third stage, conoidal in almost every case. In smallpox the rule is that the patient begins to fight for his life on the eighth day, but in this he begins to recover. There is no suppurative stage, but a stage of desiccation, and when the scales are removed by force there are no ulcerated bases seen even in the confluent cases. This eruption has never in a single case been followed by boils or phlegmonous swellings, which are too common in smallpox. Smallpox is prevented by vaccination, this is not, nor even, so far as my experience and experiments go, modified, as I have seen milder cases in the same house among the unvaccinated than among those whose arms had a vaccin sore, 8 or 10, or even 21 days old. Smallpox, as a rule, stamps its indelible imprint on its victim; it is the exception to find one "pitted" with this disease, and when pitted at first, the skin rapidly becomes smooth. There is no mortality in this disease, but in smallpox about one-fourth of the cases die. In this disease there have been neither complications nor sequelæ, but in smallpox they are the rule. In the cases which I have seen, and they have been many, not a dose of medicine has been given. Nature has not been interfered with, and all have recovered, whether in the hovel, hut or comfortable house.

You ask what I call the disease—I answer frankly that I do not know.

[2] Reynolds: System of Medicine, 1880, p. 32.

DISCUSSION.

DR. J. J. WALSH, New York—It must be remembered that the great Vienna school of dermatologists have never admitted that there is an essential distinction between varicella and variola. Prof. Senator, of Berlin, said not long ago that while at first in his medical career he held with the Vienna school in this matter, later he came to disagree with them, and yet now goes back to his former opinion and thinks the two diseases have some very intimate connection. In Berlin, when an epidemic of varicella appears, Prof. Senator always looks for a true case of variola somewhere in the vicinity.

Dr. Happel's observations, so carefully made, are very valuable as showing, perhaps, an intermediate stage between varicella and true variola. In children-hospital practice it is possible to have with varicella, severe fever, 104 F., perhaps, and, after two or three days, umbilicated vesicles, pustulation and minute pitting, very much resembling smallpox. The study of the two diseases, and especially of cases that seem to occupy a place between them, is most interesting. Dr. Happel is to be congratulated on the faithful observations he has made and on his delay in making a diagnostic conclusion until he was assured of the true character of the disease he had to deal with.

DR. JAMES, Missouri—I was much interested in the paper, because in Missouri we have been enjoying this epidemic in a somewhat exaggerated form. We have been fortunate enough in having but few deaths from variola, or discrete smallpox. In our state we have had to fight for an opportunity to demonstrate the benefits of vaccination. We have also had an opportunity of demonstrating the peculiarities of some of the medical profession, and the mistakes of a great many of the profession who depend too much on their knowledge as clinicians. We are called to see a case that is supposed to be smallpox or chickenpox and we, on the impulse of the moment, diagnose the case, possibly in the stage of desquamation or inflammation. It is chickenpox. We are too bigoted and too bright to acknowledge our error; it is chicken-pox and the whole locality is so informed. In the western portion of Missouri several thousand cases of this form have appeared in certain localities, and the board of health of which I have the honor to be a member has been invited to pass upon the disease. In one locality, in a town of 15,000 or 20,000 people, I was informed that the disease prevailing was chicken-pox, passed on by men of vast experience in that disease during the Civil War. The locality begged for help. I called and found that this town had from 150 to 200 cases of discrete smallpox, with possibly 4 or 5 cases of the confluent form. In another locality there was a case which was brought to Kansas City; immediately I was invited to visit the case. I isolated it and vaccinated the people who had been exposed, with the result that we had no further development of the disease in that locality.

DR. CHAPMAN, Ohio—In Ohio during the last year or two, there has been quite an epidemic of this disease. I have also had to contend with the doctors in regard to the name of the affection. In some communities, hamlets or villages where I have personally inspected the patients, I have found 30 in a population of 102 in bed with the disease. In the majority of cases they were adults and very sick. A great many cases occurred in those who had been vaccinated and who bore the well-known marks of pseudo-vaccination. None of them had been vaccinated recently or had any mark of recent vaccination. I wish to call attention to one point. The disease varicella or chicken-pox is not a disease of adult life. It is a disease rarely found in adults. I beg to differ with the writer of the paper regarding his views. I have failed to see a case develop where vaccination had run its course. I object to vaccination after the disease has developed five or six days, because you then would have two diseases running. I do not believe that this is varicella. Formerly varicella and variola were considered alike. In a community of 102 there were 4 deaths from this disease. I believe that if it be left to run rampant there will be more deaths. I believe that if we, as health-officers, do not do our best to isolate the cases and vaccinate the community we shall get a severe epidemic of smallpox such as has never been seen. The majority of doctors have never seen a case of smallpox, and yet they know more about smallpox than those who have.

DR. CORLETT, Ohio—Twenty years ago I studied smallpox in London, and since that time I have studied the disease in various countries, and especially in this country and in the State of Ohio; we get different epidemics, differences in virulence and in clinical features. That is well recognized by all writers on this disease. During the past few years we have had in the State of Ohio a visitation of smallpox, which first started in a small town from an alleged case of chicken-pox. From those few cases the disease has gradually spread over the whole state. In Cleveland we have had a great many cases, hundreds of them, and during this time I have taken the occasion to make photographs of the disease, which I hope to exhibit to another section, showing the differential diagnosis between smallpox and chicken-pox. In Cleveland we have had a number of fatal cases; we have had an opportunity of showing the value of vaccination. I believe that many cases of supposed vaccinations, reported as typical vaccination marks, were due to other pathogenic organisms gaining access. When tubes are used with proper antisepsis a typical lesion occurs and it is devoid of the formation that is so common in a more careless vaccination. I am still of the opinion that we have chicken-pox and smallpox, which differ in severity, and that vaccination is the only safeguard against smallpox.

DR. WOODRUFF, Ohio—I know vaccination is a protection. I know of one family of eight people, a dirty, filthy family, all had the disease but the mother and she had been protected by vaccination. I know of another family, where a young man, well to do, had a case of smallpox; he had the pustular form, with much fever, and he was very sick. In that family there were three others, two sisters and a mother, who were protected by vaccination and none of them took it. The stand taken is wrong, for we know that from the disease occurring in a town the whole country may become infected.

DR. STEWART, Philadelphia—In an epidemic a few years ago in Philadelphia we had as high as 255 deaths in one week from smallpox. There was no mistake about the diagnosis of the disease at all. Any man who went through that epidemic can not fail to recognize the differences between varicella, varioloid and variola. They are as distinct as can be. There could be no mistake in diagnosing the three forms. In regard to the paper read here I do not think from the evidence given that it is any form of variola at all. It comes under eruptive diseases, of course, but I should think it was some form of vesicular exanthem of some kind, due to climatic conditions.

DR. MCCORMACK, Kentucky—The cases from Tennessee were cases of genuine but mild smallpox, and may have been the cause of the violent outbreak that occurred there where the death-rate was 60 per cent. [Dr. McCormack then moved the resolution which was published in the official minutes of the Section in THE JOURNAL, June 23, p. 1630.]

DR. T. J. HAPPEL, Trenton, Tenn.—I think the resolution is a gross injustice. Dr. McCormack never saw a case of the disease coming from Gibson County, and no case of the disease has been reported as going from Gibson County into Kentucky and none of the Kentucky or Ohio authorities know anything about these cases. I consider a resolution of that kind a gross injustice.

DR. GEORGE DOCK, Ann Arbor, Mich., Chairman—The resolution is out of order.

DR. HAPPEL (continuing)—I must say that many have misrepresented the intent of the paper. I have nowhere argued against protection against variola. Ninety-five per cent. of the persons living in my town were vaccinated under an enforcing ordinance drawn up by myself. Taking the position that I have in the paper, I wish to say that I have no axes to grind. I have succeeded in doing what I expected to do. Personally I have this to say. My first experience in the practice of medicine was with smallpox, and I have met with it time and time again. The cases reported have none of the typical appearances of true smallpox. I am not alone in this statement. I regret that the time allowed me does not permit my enlarging on this point. Whenever this disease has appeared there has been this same difference of opinion as to its identity with variola vera. The older practitioners, as a rule, who treated smallpox twenty years ago, constitute a majority of the doubters. The text-books written from twenty to fifty years ago do not describe any epidemic of smallpox where, as a rule, there was no secondary fever, no pustular stage, no pitting and no mortality. Some of our more recent works on practice have been rewritten on the subject of variola vera and have been made to conform to many of the features of this disease.

One of the most nonsensical arguments, or rather, statements, made in regard to this present epidemic is that continued vaccination through several generations has so modified the systemic conditions of the people that this epidemic in its mild form is easily accounted for. This statement is completely negatived by the fact that there has been no systematic vaccination of the negro population since 1860, and but little up to that time, as the Southern planter depended on isolation to protect his slaves, and not on vaccination. In the South the negro has borne the burden of this epidemic, representing fully 75 per cent. of the reported cases. In Tennessee vaccination, outside of the cities and incorporated towns, has been almost entirely neglected since the war of the sixties, owing to the reports of suffering brought back by returning soldiers who had been vaccinated.

Now, in conclusion, permit me to repeat and emphasize the fact that there is no stronger advocate of repeated vaccinations in this Association and no greater believer in its efficacy and protecting influence against variola than I am, but the point that I make in this discussion is that vaccination has not protected against this disease, as has been proved in the cases reported by me and in the letters received from different sections of our country, which I herewith submit and make a part of this paper.

In addition to what has been already said, I desire to present a few communications in regard to this disease that I have received from different parts of the South when the cases first appeared. I desire to show that I am not alone in the views presented in my paper. The first is an extract from an article by Dr. J. P. Fletcher, of Lonoke, Ark., sent me when I first began the preparation of my paper:

Much discussion has been had at the bedside of the patient, as well as at the offices of the physicians of our town and surrounding country, about an eruptive disease which has been lingering in our midst since August 17 last. The history is as follows: About August 1 last, one of our citizens visited Little Rock, Ark., and was detained over night, which he spent at a private boarding-house. Upon returning home he was taken with a chill on the morning of August 17, which was followed with a high fever, pain in the head and back, lasting thirty-six to forty-eight hours, when a full crop of papules made their appearance on the face, followed by a full crop on the body. The fever subsided with appearance of

eruption. Patient up in five or six days. No secondary or recurrent fever followed. Desquamation leaves a discoloring of the skin, but no pits, but rather a prominence. This gentleman's family consists of wife and three little boys from 5 to 9 years of age. The boys took it in the course of the following twenty days. The wife and mother escaped entirely. The attending physician diagnosed the case chicken-pox, confirmed by the president of the State Board of Health. . . . I will now give you a brief history of the most interesting and mystifying case that has come under my care. Dr. J. F. O., who was well vaccinated two years ago, was taken ill December 14 or 15, with all the symptoms of all the other patients. There was a full crop of eruption, representing all the stages of full pustule—umbilication excepted—to the minute papule, winding up without a single pit. Up to the 12th inst. his face was still covered with papules, which were gradually fading, leaving the surface smooth and natural. His family consists of father, mother, wife and two little girls. The elder of the little girls was vaccinated when her father was, some two years ago. Both children and grandmother had mild attacks. Grandfather and wife escaped entirely. What is this disease? From the teaching of our latest and best writers I can not think it smallpox. I have been exposed to it from the commencement, and am not an immune from smallpox. Up to this writing have not had any symptom of the disease. I have treated thirty-two cases. We have had, in all, possibly sixty cases in town, with only one death.

LONOKE, ARK., Nov. 29, 1899.

Dear Doctor:—With great pleasure I have watched the proceedings of the Tri-Medical Association during its late session. I was very much interested in your paper on smallpox diversion. The *Commercial-Reporter* gave only a synopsis of your paper, but sufficient for me to comprehend your position in the matter of the disease. In August, 1898, the first case occurred in our town and during the summer and fall we had from 50 to 75 cases, in which we had but one death, and that was a young lady of very delicate constitution, who was also suffering from menstrual trouble. We were informed by an expert, so-called, that as soon as cold weather set in the disease would spread rapidly and be attended with great fatality. During the cold weather, however, there were but few cases, and these very mild, so much so that few called a physician or even consulted one. Up to May 1 of the present year we had 150 cases in the town and surrounding country, with but the single death mentioned above. Another remarkable feature of the disease was that the only fully confluent cases which came under my care were those that had been vaccinated a year or two before. Again, in families of from 5 to 8, 2 to 6 cases would occur, and the rest escape. There was no odor nor recurrence nor secondary fever or pitting after desquamation. My experience with this disease, so-called smallpox, is that it is evidently not even moderated by vaccination, but rather intensified. It is still lingering in our state and it seems to be a concurrent opinion with the profession that it is smallpox, except a few independent thinkers who have the backbone to express their convictions to the contrary. I hope some learned expert will soon find a name for the intruder.

Yours fraternally, J. P. FLETCHER, M.D.

SOUTH BOSTON, VA., Dec. 1, 1899.

Dear Doctor:—I am heartily in favor of abandoning the old name of smallpox as applied to this mild or pseudotype of the disease. We have had some 75 or 100 cases here, and they all seemed to get along all right without even the attention of a physician; some kept at their ordinary duties until detected by the health officer. Not one case was sick enough to require special attention. Many of them were negroes, and, according to our best writers, this race usually suffers most. In this instance the negroes suffered least; many of them never stopped from their usual labors. I am unable to understand why we should have such a mild type of so fatal a disease. Vaccination seems to have but little effect in preventing or modifying the attacks. Hence I am at a total loss to know what to call the disease that is contracted from those who have previously undergone thorough vaccination. There does not seem to be any difference in severity in those who have and those who have not been vaccinated. Do you think genuine smallpox can be contracted from varioloid? Fraternally,

BITTLE C. KEISTER, M.D.

COLUMBIA, TENN., March 15, 1900.

Dear Dr. Happel:—It is currently reported here that you have backed down from the position you took last year in regard to this thing that every little four-by-six doctor is calling smallpox. We have it here, and have hundreds of cases, and not a single scar or death from it yet, nor a single case that has been sick enough to give any concern; any number of them running their course in four to seven days and none lasting longer than fourteen days; never any true pustules or crusts nor any secondary rise of temperature. It occurs as readily and as often in persons recently vaccinated as those not. Vaccination takes as readily after the attack as in those who have not had it.

It occurs as severely in those that have previously had true smallpox as in any other class, as I have had an opportunity to observe in two cases. The patients are sick only one or two days and often not then. In other words, it has nothing in common with true smallpox, and I am very sure it is nothing akin to the genuine article. Please write me if you have changed base in the matter. Your sincere friend,

W. K. SHEDDON, M.D.

COLDWATER, MISS., Jan. 11, 1900.

Dear Doctor:—This is to obtain a knowledge of your views relative to a very prevalent skin disease simulating smallpox that is scattering all over several states in the South. We have it in this town and prominent physicians are very much divided in opinion as to what it is. It is unnecessary to give you symptoms in detail, as I learn that you have the same trouble in your county. But very few of my cases pit, and none seem to be protected by vaccination. The mortality is very low. I am not of the opinion that it is true smallpox. But many of my older colleagues are very friendly toward the variola idea, yet none have ever seen a case of smallpox before the appearance of this disease. If you have named the trouble please write me full particulars. Yours truly,

GEO. H. MCCAIN, M.D.

MCKENZIE, TENN., March 24, 1900.

Dear Sir:—Our town is just now having its first experience with the so-called smallpox, so pronounced by Dr. Albright, Secretary of the State Board of Health. Dr. R. D. Given, one of our oldest and ablest physicians, stoutly contends that it can not be smallpox. He has been attending the patients daily and has treated old-fashioned smallpox several times during his practice. It has been told here that you contended for a long time that the disease that has been *called* smallpox by the state health authorities in your county was not smallpox, but that you had recently changed your views and are now convinced that you were mistaken in the opinion you formerly held. For my own satisfaction, and for that of others, I would like to know if this is true. Very respectfully,

J. T. BURNS.

HICKMAN, KY., May 13, 1900.

Dear Doctor:—Have you had any experience with the cutaneous eruption that has infested this country for the past twelve months or more? If so, do you think it is smallpox as it has appeared in this country before, or as it is described by the authors on the subject? Do you think it likely we could have at this place over a hundred cases of smallpox—most of them negroes—broken out from head to foot—many of the lumps so close together as to compress each other like peas in a pod and not have a case of secondary fever? A few of the cases had chills; most of them had chilly sensations, headache, backache and fever. Eruption appeared on third day. Patients feel ill on the fourth day; some of them on the fifth. After that the appetite is good. They claim to feel as well as ever, and go to work if you allow them. The eruption remains out for weeks in some cases. There is a little milky fluid under the cuticle about the fifth or sixth day. If the cuticle be rubbed off, the lump is smooth and oval, and is removed by absorption at the base, remaining oval on the apex—unless scratched or irritated—until it disappears, leaving no pit whatever. Some of these cases have quite sore throats for two or three days. One of my cases had marked photophobia, with inflamed lids. In all the cases—I have seen over thirty—I have prescribed a gargle in four only, and solution of boracie acid for the eyes in one. That is all the medication they received, except cosmolin over the exposed parts. If we admit this to be a mild type of smallpox, do you think it would have been advisable to have placed all these cases in a small pesthouse? Might it not have aggravated the type? I had guards put at the houses, and isolated them the best I could in that way. But after the fifth day it was almost impossible to keep them confined in any place. Yours, etc.,

ALEX. A. FARIS, M.D.

CROCKETT MILLS, TENN., May 26, 1900.

Dear Doctor:—I am desirous of obtaining your ideas on an "eruptive disease" which we are having at present in this part of Crockett County. I have been informed that you have had considerable to do with a malady of this type in your county, hence my writing you. I will relate the history of a typical case which, with two others not so typical, has been under my care and observation. The patient, male, white, aged 17, was taken sick the 10th inst. with slight fever, headache, malaise, etc., as the history was given me on Saturday, the 12th, which was the first time I saw him. At this time, the third day of his illness, he complained of frontal headache, general malaise, constipation and some muscular pains; his temperature was 101.2 F. No chill had preceded these symptoms, nor was there any nausea or vomiting or lumbar pains. There had been also in the same family, about two weeks previous to the case in question, some eruptive trouble, which I did not see, but which was diagnosed by the attending physician as "biliousness and impetigo contagiosa." This patient, a girl, remained in bed only two days, so I was informed. Knowing that there had been a "suspicious case" in the family before the boy was taken sick, I took particular care to examine his entire body for some sign of an eruptive trouble, but found none. I inferred therefore that the case was one of la grippe. On the following morning I called again, at which time the boy was covered from "head to foot" with a vesicular eruption, each having a "halo." His temperature at the time was normal, all discomfort had disappeared, and, to use the boy's words, "he felt like being out." These vesicles were on all parts of the body, but more particularly on the face and hands, and not more than one in a hundred were umbilicated, and then only slightly so. On pricking them with a needle they at first would collapse, but later would not, showing that they were reticulated. They remained in the vesicular stage for four days, when they assumed the pustular form, going on to scab and desiccation during the next twelve days. As before stated, there was no pre-eruptive rash of any description, neither was there even a papular stage preceding the vesicular, and his temperature stayed at normal from the appearance of the eruption till the end of the attack. Three representative physicians of this county saw the case with me during the lactescent stage of the eruption, and they unhesitatingly diagnosed the case as one of true, discrete variola. From this diagnosis I dissented, for the reason that there was not and had not been anything charactristic of this malady any of the time, except the vesicular eruption, which was then present; and because the temperature, as in the other case, was normal, and remained so all the balance of the time. Neither was the beginning of the attack characteristic of variola—no chill or chilliness, no nausea, no "backache," and above all, no pre-eruptive rash, followed by papules, giving the "shotty feel" on palpation. In fact, there was absolutely no indication of an eruption until the crop of vesicles appeared. You will notice, too, that from the initial stages until desiccation was nearly complete only sixteen days elapsed, and there was no "secondary fever." I am sure the case was not varicella, because the eruption came too late for that, came out suddenly, and there was not the characteristic phenomena of papules, vesicles and crusts appearing on the same parts of the body in proximity. I omitted to say that the eruption appeared scantily on the tongue and the pharynx.

There have been more than fifty cases of this trouble in Crockett County, with no deaths, and in many instances the parties having the disease did not go to bed, or only stayed there two or three days. I can hardly bring myself to believe this to be variola; if so, I have been misled by the most eminent authorities, viz., Osler, Anders, Tyson and the American Text-book (Pepper). Now, Doctor, I have written you with no other motive in view than obtaining information, or rather obtaining your ideas on the subject, which I may say without any degree of flattery, I am sure are as good as I can obtain, believing, as I have a right to do, that you have seen similar cases and are competent to give me something definite on the subject. I shall hold what you say "sacredly confidential" if you desire it. The cases in question were never vaccinated.

W. T. REDMOND, M.D.

SALT LAKE CITY, May 23, 1900.

Dear Doctor:—I see by the program of the American Medical Association that you are to read a paper on "Pseudo (?) or Modified (?) Smallpox." This subject intensely interests me, as we are having an epidemic of modified (?) smallpox (?) in the West—Utah, Montana, Colorado, Oregon and Wyoming. The profession is at sea and many good men differ as to a diagnosis. Yours, H. N. NAYOR, M.D.

PSEUDO, MODIFIED, OR TRUE SMALLPOX—WHICH IS IT?

H. M. BRACKEN, M.D.

MINNEAPOLIS, MINN.

The first term is in common use at the present time. Let us analyze it. It is applied indiscriminately to a mild eruptive disease prevailing quite generally throughout the southern and middle states and, to a limited extent in other parts of the country. This disease is admittedly like smallppox in many of its characteristics, but those who use the above term in describing it insist that certain characteristics of smallpox are absent. I presume no one will dispute the fact that the disease prevailing so generally, whether accompanied by slight or severe symptoms, is one and the same when the line of infection is clearly continuous. It is therefore all smallpox or not smallpox. Let us consider carefully some of the arguments used against the diagnosis of this epidemic disease as true smallpox.

First, the mildness of the disease! It is absurd in this day of advanced knowledge to put forward such an argument. We all know that there may be mild epidemics of diphtheria, in which the majority of cases may show but little membrane; that often diphtheria prevails as an epidemic under the false name of tonsillitis until a few deaths arouse the lethargic physician, or a microscopic examination reveals the presence of the bacillus of diphtheria. Who would say that an epidemic sore throat with the specific bacillus of diphtheria present was not diphtheria because the disease was of a mild type, and had none of the dangerous symptoms of malignant diphtheria? Again, we have probably all seen an epidemic disease with many of the characteristics of scarlet fever but varying in degrees of intensity from the mildest rash, characterized by the old-woman doctors of both sexes as scarlet rash, to the severest type with the accompanying fatal sequelæ. Would any intelligent physician of modern days say that the cases with the mild symptoms and those of the severe type were not one and the same? It was not many years since it was considered necessary to have the typical history of typhoid fever before we were willing to call a fever by this name, but now we know that there may be a mild typhoid fever with very few of the classic symptoms of that disease. Let us be reasonable then and admit that while it is the rule to have a mortality of from 25 to 50 per cent. with smallpox, it may be possible to have the disease in mild form with a very low mortality.

The eruption is said not to conform to the book description of smallpox. Are we such slaves to books that we can not make a diagnosis of smallpox without all the cases having an ideally-formed eruption? It is no uncommon thing to find grouped together cases with the typical eruption at one extreme and the non-eruptive cases at the other, with all grades of eruptions between. Would any one with the history of a common infection say that some of these cases were smallpox, and the others not? What would those who need a classical eruption in order to make a diagnosis do with the most fatal of all, the hemorrhagic cases? I presume they would call them purpura hemorrhagica instead of hemorrhagic smallpox.

The temperature is said to be too mild in the majority of cases. Why should not the temperature be mild if the infection is mild? It certainly would be a freak of nature to cause a prevailing fever out of all proportion to the degree of infection. The secondary fever is said to be absent. The physician who has to wait for the

secondary fever of smallpox before he can make a diagnosis would do well to change his profession. Why should there be marked secondary fever when the eruption is mild? Not long ago I saw a young lady with probably not more than a dozen smallpox pustules on the entire body. Why should she have secondary fever? Her brother, a young man, contracted the disease from her. He had confluent smallpox and a secondary fever.

Those who wish to call this mild type of smallpox by some other name, point to the fact that good authors state the danger of infection from smallpox is present during the entire progress of the disease, and likewise that all who are exposed to a given case at a given time do not promptly succumb at one and the same date, about fourteen days from the time of exposure. But why should they? All individuals may not be equally exposed at one time. Some may be more susceptible to infection than others. It is possible for an individual to have absolute resistance to infection at one time and not at another. It is even possible to have a natural immunity against this disease, the same as with other infectious diseases. Some writers at least who use the evidence of mild or irregular infection as an argument against smallpox, in speaking of this disease seem to recognize the fact that as a rule it attacks all, or at least many, of the non-immune members of a household when it once appears. Those physicians who consider the disease smallpox are cognizant of the fact that all who are subjected to a casual exposure do not of necessity become ill. Why should they? With the disease in mild form it is quite natural that the degree of infection should be mild. But even with the disease in severe form a casual exposure is not necessarily followed by infection. About one year ago I visited a child who died of confluent smallpox while I was at the house. Her father, a physician, had failed to recognize the disease. As a consequence the whole village had practically been exposed, many of the inhabitants more than once, for the child lay ill in a semipublic room and had many visitors. Yet, following this there were only eight cases from direct infection.

It is said that some of the prodromal symptoms of true smallpox are wanting in this epidemic. Granting this to be so, it proves nothing. We do not need all of the classical symptoms of typhoid fever in order to make a diagnosis. If a few typical ones are present, that is sufficient. I venture to say that with the exception of the smallpox cases without eruption, all of those occurring even in mild form have a sufficient number of symptoms at some stage of the disease to enable the careful observer to recognize the presence of smallpox.

Some of the doubters state that vaccination does not protect against the prevailing epidemic. This does not agree with my experience. An old vaccination, an imperfect vaccination, a vaccination made after exposure, may not afford protection. But in a large percentage of *successful,* recent vaccinations protection is complete. Some have been vaccinating these cases during or immediately following their recovery with the belief that evidence of a successful vaccination under such conditions would tend to stamp the disease as not smallpox. Such a test is absolutely useless. There is no reason why vaccinia and variola should not exist at one and the same time in an individual. They may have some influence on each other without complete antagonism. It would be strange, however, if all those who had this mild form of smallpox should respond to vaccination made a sufficiently long time after recovery from the first disease. I do not think they all will, and my opinion in this matter has been borne out by the experience of those observers with whom I have been associated.

Regarding the advisability of calling this mild type of smallpox—for such it undoubtedly is—a modified smallpox there is little to say. It certainly is not varioloid, for by this we mean smallpox modified by vaccination, and many of these mild cases under consideration have never been vaccinated. If vaccination had been practiced quite generally over our entire country thirty and forty years ago, and then neglected during the past twenty years we might then think that a partial immunity had been secured. I do not lean to this latter belief, but rather to the opinion that we have nothing more or less than a mild type of disease, such as may occur at times with other infectious diseases. A few illustrations may be of value.

About a year ago I was called to see a man, aged 40 years, suffering from an eruptive disease called chicken-pox by his attending physician. He gave the history of having had somewhat marked symptoms before the eruption appeared, with but little discomfort afterward. The case had not been quarantined before the seventh or eighth day of the disease. The population of the village was about eleven hundred. Investigation brought out the fact that in all there were eleven cases in this village; nine preceding and one following this man. Most of these were adults, all closely associated. None had as marked eruption as the man under consideration. All had marked prodromal symptoms but not all of those described in books as belonging to smallpox. The source of infection for these cases was traceable to undoubted smallpox. The man under consideration had smallpox. The others had beyond a doubt the same disease, although in very mild form. None of the cases were fatal.

Again, in the early spring of 1899, a man, aged probably 50 years, returned from California, visiting for a time in Nebraska before reaching his home in southern Minnesota. At the time of reaching home he had a mild eruption, which did not discommode him at all, and which he called chicken-pox. Shortly after his return, his wife became ill with smallpox and died. She undoubtedly contracted the disease from her husband, who had had smallpox in mild form instead of chicken-pox. There were five other cases of smallpox from these exposures, varying in degree from a very mild exanthem to a most marked eruption. One of the patients, a physician, died of smallpox contracted while attending the first fatal case.

Again, early in August of 1899, it was reported to me that two young men, doing business in a city having a population of about 3000 inhabitants, were ill with chicken-pox. I advised the local health officer to be on his guard, as in all probability the young men had smallpox in mild form. Later I learned that no heed had been given my advice. The young men had carried on their business as grocers, regardless of the disease. From this infection there were in this city and vicinity over two hundred cases of smallpox *without a death.* However, there were four deaths in places somewhat remote, traceable to infection at this place.

It is not difficult to furnish illustrations like the above. There have been over one thousand cases of smallpox in Minnesota since January of 1899, having the characteristics of the so-called pseudo or modified smallpox. There has been a total mortality of a trifle over 2 per cent., although in some localities with many cases there have been no deaths. Some of the fatal cases were of the acute hemorrhagic type, causing death

before the fifth day. In several of these cases a correct diagnosis was not made until after death.

We can not be too careful in dealing with the present general epidemic of smallpox, and those physicians who have failed to make a correct diagnosis or who are seeking notoriety by suggesting a new name for an old disease can do much toward aiding in the suppression of the trouble by admitting their errors, or at least ceasing to preach false doctrines.

TYPHLITIS, PERITYPHLITIS AND APPENDICITIS IN INFANCY AND CHILDHOOD.

CAUSATION AND RELATIVE FREQUENCY*.

JOSEPH HENRY BYRNE, M.D.
Visiting surgeon, Metropolitan Hospital and Dispensary.
NEW YORK CITY.

The title of my paper might possibly lead some to suppose that I was about to bring forward few or many well-grounded facts which might tend to sustain the theory of the older writers. I wish, however, to correct any such impression at the start, for I fear it is not within my power to add much, if anything, to a subject that has been so thoroughly gone over by the most competent men in the profession, both here and abroad. The wonderful strides that have been made in pathology and bacteriology, within the past two decades have so thoroughly revolutionized matters that we are forced to disregard theories that only a few years since appeared tenable, as patient research and the aid of the microscope have removed many an obscurity. However, this does not seem to have been the case with typhlitis and perityphlitis, as the theories that were first accepted seem to have been the result of mere speculation. Most of us are familiar with the teaching of Albers, which he advanced about 1838, and which was accepted as the correct view by the majority of all writers of text-books for nearly half a century. About the same time Grissolle did his best to controvert these teachings, as he certainly perceived that they were groundless. He was by many of his confrères looked upon as a "crank," and, in reality, he was the one who set the wheel of knowledge revolving in the proper direction. He rightly asserted that inflammations involving the cecum were not accompanied by accumulations of pus and perforation of the appendix, which we find in the right iliac fossa, when even dysentery and ulceration of this part did not tend to involve the adjacent connective tissue. He again claimed that disease of the vermiform appendix, with its phlegmonous inflammation, pus formations and perforations, explained in a satisfactory manner the chain of events as they actually take place, and he thus gave us a fairly true picture of what we now know positively occurs. His theory was not speculative, but was the result of patient and careful research and actual post-mortem investigations.

The weight of evidence is so abundant that we must be led to the belief that the premises on which the other writers based their conclusions, with the exception of Grissolle, were erroneous. We are also forced to the conviction that the inflammations around the cecum take little or no part in the production of appendicitis; also that few cases of typhilitis exist as a primary disease, and that perityphlitis only takes place as a secondary complication. In fifteen years I have never seen a case of primary typhlitis or perityphlitis, and the literature of recent years shows that the majority of others have had like results.

Hawkins, in his book on diseases of the vermiform appendix, while referring to the inflammatory trouble found in the right iliac fossa, states that the cecal theory has undergone gradual modification until it is now quite extinct, owing to the fact that all evidence is opposed to this theory, both clinically and pathologically. It is very easy to understand how such men as Laennec, Ferrall, Burne, Albers and otners entirely ignored this little rudimentary offshoot when the great surgeon, Dupuytren, looked on the cecum as being the starting-point in the trouble, and it was probably owing to his support that the true cause of the disease was so long withheld from view.

Einhorn, of Germany, in 100 cases, found the appendix the origin in 91 per cent.; the cecum in only 9 per cent. Wallis, in 52 cases, found the cecum to be the cause of 10 per cent.; the appendix in 89.8 per cent. Renvers, in 586 autopsies after perityphlitis, found the appendix ruptured in 497 cases, and expressed as his view that five-sixths of all the fatal ones were caused by perforation of the appendix, and that perforation of the cecum occurred in 13 per cent. Agar, in 218 autopsies for a similar condition, found cecal perforation in but 29 cases. Volkmann stated that it was his belief that typhlitis and perityphlitis are due to perforation of the appendix, except in those cases of tubercular and typhoid ulceration of the cecum itself. Talamon says that early operation seldom, or never, shows the presence of inflammation or perforation of the cecum, and that we are, therefore, correct in ignoring the observations of the older writers. He, however, admits that it is secondary to the inflammation of the appendix; that the process takes place from without inward, owing to the proximity of the organ to the peritoneum covering the former. Hawkins, like Volkmann, believes that the cecum may be the seat of trouble in tuberculosis, dysentery and typhoid fever, but concludes that the process is then only part of the original disease, and that perforation under these conditions is not likely to occur. Stercoral accumulations in the cecum may very rarely produce a mild inflammation, but never give rise to ulceration and easily disappear on the administration of purgatives. Mynter, like all recent writers, states that the chain of events points directly to the appendix as being the primary seat of the trouble, and directs our attention to the predisposition of the affection to occur after one attack, whether that be mild or severe, and such, I firmly believe, must be the experience and conclusion of all of us.

Owing to the fact that the mucous membrane of the appendix is continuous with that lining the cecum, it would be a most natural assumption that inflammatory and ulcerative conditions involving the membranous covering of the latter would by extension spread to that of the former, but such does not seem to be its tendency.

The inner coat of the gastrointestinal tract is frequently the seat of varying degrees of inflammation during the periods of infancy and childhood, and we are all familiar with the different forms of gastro-enteritis and ileocolitis of the catarrhal, follicular and ulcerative types. If these ordinary inflammatory states played a major part in the production of appendicitis, we would frequently meet with this condition during early life, while statistics prove beyond question that the disease is rather infrequent before the fourth year, increasing between that period and the tenth, while the majority of cases take place between the tenth and thirtieth years.

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If any relation existed between these two conditions, we would naturally look for an increase in the number of cases during warm weather, when the above diseases are more prevalent; but there seems to be no difference whatever so far as the seasons are concerned, as appendicitis is just as frequent in the cold as in the warm months. It is a well-known fact that inflammations in the large and small bowel have little or no tendency to involve the peritoneum, and that the opposite is the rule with an inflamed appendix. With this in mind it is easy to understand how the inflammatory process can extend to the serous coat of the neighboring parts and the adjacent connective tissue.

ANATOMY.

Before proceeding further it might be well for us to view the component parts of the appendix with its blood-supply and mesentery anatomically, for in these parts, as we will later see, are to be found a few potent factors in the causation of the disease.

From within outward we find the mucous coat lined with cylindrical epithelium with its basement membrane, tubular glands and closed follicles. The reflection or folding of this membrane, when such takes place, at the cecal opening, forms what is known as the valve of Gerlach. The submucosa is made up of connective tissue, with spaces for the blood-vessels and lymphatic openings. The muscular coat is composed of a few non-striated, longitudinal muscular fibers, with a varying amount of fibrous tissue, innermost to which are found some circular fibers that are not very numerous in the majority of cases, the combination of both forming the greater part of the entire wall of this organ. Some have gone so far as to state that no circular muscle fibers exist, but the majority rightfully claim otherwise, as the microscope has disclosed their presence on numerous occasions. The conformation of the fecal concretions so frequently found adds another proof of their presence, as the tapered ends and convex surfaces of these masses tend to show that peristaltic waves take place from either end of the appendix toward the center of these bodies.

Lastly, we come upon the serous coat, which, in the majority of cases, i. e., over 75 per cent., entirely surrounds this organ. While this membrane is in close proximity to the underlying structures of the appendix, and takes a more or less active part in all the inflammations involving it, it must not be forgotten that it is a distinct structure in itself, and is only a part of the general peritoneum.

The meso-appendix, which is triangular in shape, varies in size, sometimes accompanying the organ for its entire length; in other cases, and, in fact, in far the greater number of cases, it only extends part way; or, again, it is occasionally conspicuous by its absence.

The arterial supply, which consists of a single branch, passes along the free edge of the meso-appendix to the distal end of the organ; when no mesentery exists it passes beneath the peritoneum in the same direction. In the female an anastomotic loop is given off from the region of the right ovary.

The appendix varies more in size, position and general make-up than all the other structures of the human anatomy. The size seems to bear no relation whatever to the frequency of the disease, as a very large appendix is just as apt to become the seat of an inflammatory process as a smaller one. In childhood the organ is very rich in lymphoid tissue, has been compared to the tonsil, and, therefore, has been styled the tonsil of the intestines.

The appendix is an atrophied organ, or the rudimentary remnant of a lengthened cecum seen in nearly all mammalia except man. It is also found in the wombat, and is present in the different types of the higher apes, but in the latter, so far as our knowledge goes, it does not seem to become the seat of inflammation. It being an admitted fact that this organ is an atrophied, a functionless and rudimentary one, with a blood-supply that can easily be interfered with, and which at its best seems barely sufficient under healthy conditions, it must, therefore, be more or less susceptible to any inflammatory state. The physiologist up to the present time has not credited this little mischief-maker with any special function or assigned to it even a remotely-indirect part in our vital economy. Some have suggested that the secretion might act as a lubricant to the adjacent parts; but if such were really its office, the dwarfed condition which we find would not be the rule, but the exception. The fanciful ideas of some need not receive our consideration, as up to the present we know nothing of its good qualities, and have prudently learned to fear it. It, therefore, resolves itself into a useless and dangerous organ, and we may honestly classify appendicitis as one of the later additions to the ills that we are told man became heir to on the fall of Adam.

The first anatomic description of the appendix is credited to Capri, 1524. Videus, in 1561, applied to it the qualifying term "vermiform," which it holds to the present day, while the valve and the appendix were both described by Lieberkühn in 1739, but real accurate accounts did not appear until the present century. As early as 1759 a case of perforative appendicitis was described by Mestivier, and between 1827 and 1868 a number were recorded by English, French and a few by German writers. In these early cases, although the description points conclusively to the existence of true appendicular inflammation, all of them being of the perforative or suppurative varieties, the pathological conditions were not understood, and their views, necessarily, are not in accord with the knowledge which we possess at the present time. This offshoot from our alimentary canal can be looked on as unimportant, so far as its usefulness is concerned, but most important from a medical and surgical standpoint, owing to the fact that it is commonly the seat of pathologic changes. It did not attract much attention until within the past fifteen years, when the real importance of appendicitis became understood, its pathology disclosed and the different stages first described. Although the earlier writings of our foreign brethren first brought the subject to our notice, the credit for our present knowledge regarding the disease belongs to us, owing to the able contributions of Weir and McBurney, of New York, and Fitz, of Boston, which placed the disease within the proper focus, thus enabling us to intelligently understand the part the appendix played in the different conditions, as formerly described and as we see them today, our eyes being opened for the first time to a clearer insight into the sequence of events as they take place pathologically in this appendage. If I were to stop here I would be doing an injustice to one of the younger men in the profession, as it was Dr. Hodenpyl, of New York City, who first suggested that the bacillus coli communis played an important part in the production of appendicitis, and later observation by himself and others proved this to be correct.

ETIOLOGY.

Formerly the principal cause in the production of this disease was attributed to the presence or lodgment of

foreign bodies in the lumen of the appendix, and an operation that did not reveal the presence of such a body was not looked on favorably by the laity, so forcibly was this impressed on their minds. Within the past ten years or less the disease of this organ has attracted so much attention that its true character has been better understood, so that the existence or absence of orange, grape or date seeds, etc., is looked upon as playing but a minor part in the production of this affection. When, however, they do exist, they, like fecal concretions, act in a mechanical way, and thus become pathologic factors in bringing about the trouble, either by occluding the lumen, by interference with the blood-supply or the normal peristaltic movement, or, finally, by acting as irritants. The knowledge within our possession leads us to classify our causes under two main heads—predisposing and exciting.

PREDISPOSING CAUSES.

The variations in the size, position, character of the lumen, and the anatomic structures in and about the appendix, call our attention immediately to the consideration of a few very important agents in bringing about this disease. The average size of the appendix, according to Ribbert, varies during the different periods, being longest during early adult life. At birth it measures 2 4/7 cm.; up to 5 years, 7 2/3 cm.; from 5 to 10 years, 9 cm.; from 10 to 20 years, 9.75 cm., and from here on it seems to decrease. With the length it may be well to take into consideration the mesenteric attachment. When the latter accompanies the organ in its entirety, or nearly so, it is apt to assume a position that is straight, or one that is nearly so; but where the mesentery is incomplete it may then become curved upon itself or twisted, which it actually does, thus interfering with the circulation and the free drainage of the normal secretion, which, when locked up for any length of time, may of itself, or by the addition of another factor, bring about a catarrhal condition. Again, the curve, or kink, would naturally retard the egress of any fecal material that might perchance gain admittance, and we then have added a new element of danger, as the conditions are then ripe for the formation of a concretion which may receive further additions of fecal material, and which may also become the seat of calcareous deposits.

The next point for consideration is that of position, and we are all well aware that the appendix is not exclusive in its choice. It, however, in about 60 per cent. of the cases, selects one of two positions; in the first the appendix takes an upward and inward direction, looking toward the spleen, and in the second instance it lies directly behind the cecum itself. Both these favor the complete emptying of the cavity of its normal secretion or any fecal matter that might possibly have gained admittance. If, on the other hand, the selection is in any way opposed to gravity, we have certain elements of danger added, as the ingress of material is facilitated and the egress is more or less hampered; thus an unusual amount of labor is put on the muscular coat, which we all must acknowledge is barely sufficient under normal conditions.

The appendiculo-cecal opening and the cavity itself are of some moment, and, therefore, must claim a share of our attention. The former being the common entrance for both incoming and outgoing material, an opening that would permit free passage is one that we would naturally select, and in the majority of cases this is not always what we find, as the door of communication is sometimes so narrow that a filiform bougie is passed with difficulty. Whether this state is congenital or more likely the result of one or more mild attacks of inflammation, or retrograde changes, does not concern us only so far as it obstructs the way. Along the canal itself constrictions are commonly met with, and act in a similar manner to the above. They are the result of cicatricial contractions following one or more inflammatory attacks, and vary according to the degree of destruction of the mucous membrane and the underlying tissues. The lumen varies considerably, a narrow pouch facilitating the complete discharge of mucus or fecal material, when no strictures or twists are present, while a large one adds to muscular effort, and, owing to the likelihood of its incomplete emptying, favors the production of fecal concentrations and inflammatory processes.

A very interesting table is one given by Ribbert, in which he tells us he found 99 cases of stricture in 400 bodies, and what is still more interesting, that the frequency varied with the age of the individual: At 1 to 10 years, in 4 per cent. of bodies; at 10 to 20 years, 11 per cent.; at 20 to 30 years, 17 per cent.; at 30 to 40 years, 25 per cent.; at 40 to 50 years, 27 per cent.; at 50 to 60 years, 36 per cent.; at 60 to 70 years, 53 per cent.; at 70 to 80 years 58 per cent.

The infrequency of stricture between the first and twentieth year leads to an important question: i. e., whether the lesions are the result of inflammation or retrograde changes. Fitz and others claim that the condition is pathologic, but Ribbert and Hodenpyl, while admitting the possibility of the former, state, however, that the majority are the natural consequence of the latter. Strictures have been found a number of times in the fetus, and Hodenpyl notes two cases found by him in the new-born.

Most of us are called on to treat children suffering apparently from some stomach or intestinal trouble, which usually responds to treatment in the course of three or four days, the cause being ascribed to some indiscretion in diet. It is my firm belief that if we were a little more careful in our examination we would often find the appendix the seat of a mild catarrhal inflammation, which later on may result in a constriction. As an exemplification of the effects of these mild attacks of inflammation, I will cite a very interesting case which lately came under my observation.

A little girl between 12 and 13 years old, according to her mother's statement, for several years had occasional attacks of what she called "biliousness"—two or three each year—during which time she suffered from nausea, vomiting, pain in the abdomen and headache. The child usually recovered in three or four days. A purgative was always administered with other home treatment, the doctor not always being consulted. The last seizure was more severe; about the fifth or sixth day the family physician was consulted, and the following day, through his kindness, I saw the patient. A few hours after my first visit I removed the appendix and found the proximal end of the canal nearly closed for about one-fourth of an inch; the minute communication that still existed was filled with broken-down material. The appendix was a little over three inches long, and three-fourths of an inch wide at its center. It was flattened upon itself, gangrenous, ruptured through both sides a little above the center, and still contained within its lumen a large fecal concretion. The cavity itself was considerably dilated, this being due to the long-continued retention of mucus and fecal matter. Firm adhesions walled in about two ounces of pus, detritus

and feces. The stump was so rotten that it was sutured with difficulty, and finally gave way on the eighteenth day from incessant coughing, caused by a complicating double pneumonia. The patient eventually recovered.

The concretion in this case was evidently secondary to one or more attacks of catarrhal appendicitis, for had the opening been many times larger it could not have gained admission to the cavity. Healing by granulation near the opening resulted in the formation of cicatricial contractions, the fecal matter that entered was locked up within its walls, the watery constituents absorbed and the first stage of this condition was completed. The dilatation of the lumen followed from the retention of the normal, and, later, the exaggerated, secretion, the concretion acting as a ball valve at the door of communication. The subsequent attacks resulted from decomposition of mucus, the irritation caused by the presence of the concretion, interference with the circulation, and, lastly, from the invasion of micro-organisms.

Comparatively speaking, the appendix is relatively larger in fetal life, infancy and childhood than it is in adults; and, according to Ribbert, it compares with the large bowel as 1 to 10, while in adults its relation is 1 to 20. It is also somewhat longer and wider in the male than in the female, and this holds good in the early periods of life.

With the diminishing ratio, which is nothing more than a retrograde process, the vascularity of the part must also be lessened, and, as the tissues receive their nourishment through this channel, I am firmly convinced that the slight immunity that exists in the earlier periods of life can be credited to the fact that these changes in the majority of cases are not sufficient to interfere with the integrity of the organ until after the fifteenth year, and statistics support this assumption, as only about 15 per cent. of all cases of appendicitis occur prior to the fifteenth year.

Mucous Membrane.—In early life the mucous membrane of the appendix possesses wonderful power of absorption, and this in itself becomes an active predisposing cause.

Sex.—All statistics prove beyond doubt that the female is less frequently the victim of appendicitis than the male, and the percentage does not seem to vary any more in the earlier periods of life than it does in later years. Some good reason evidently gives the female this advantage, and this is accounted for by the increased blood-supply, a small anastomotic branch being given off from the region of the right ovary, and passing along the appendiculo-ovarian ligament of Clado, and secondarily to the comparatively smaller size of the organ itself. In the male a single blood-vessel supplies the part, and all anatomists agree that no anastomosis exists. When for any reason the circulation is interfered with by kinks, twists, constricting bands, compression, etc., compensation can not take place, and the result is a lowering of the vital powers, an inability to resist even a mild inflammation, if such should attack the part.

Recurrence.—Mucous membranes that have once been the seat of catarrhal inflammations are predisposed to successive attacks. This is seen in that covering the tonsils, bronchi, air-vesicles, bladder, etc., and the lining of the appendix does not seem to be an exception to this rule. The following figures, taken from the work of Mynter, treat particularly of relapse, and are worthy of note, as they give the result of accurate observation, but, unfortunately, do not state the actual number of cases on which the percentage was based: Irish found that 50 per cent. of the cases tabulated by him suffered recurrence; Price, likewise, 50 per cent.; Richardson, 49.4; Ransohoff, 50; Knaussold, 23; Krafft, 22; Porter, 9.5; Bryant, 11-17; Sahli, 20; Gage, 33.5. Some place the ratio much higher, others consider it less. Although these cases were taken collectively, and, therefore, do not refer specially to early life, they are yet important, owing to the fact that 15 per cent. of all cases occur between the first and fifteenth year. My own experience, however, leads me to believe that recurrences are less frequent in infancy and childhood than they are in later years, although the first involvement may lay the foundation for attacks which occur later. At all events, it is true that one attack predisposes to subsequent inflammation, whether this be occasioned by secondary constrictions of the caliber of the appendix or a contraction of the orifice itself, by adhesive bands, the presence of concretion, or any condition that will in any way interfere with the circulation, and, finally, by a resulting subacute inflammation that sooner or later becomes active. Occasionally we find a complete occlusion of the entire canal in the adult. While such is possible during early life, I have never seen a case recorded.

Constipation and Diarrhea.—Either of these alone probably plays little or no part in the production of appendicitis, but when associated with any of the above enumerated predisposing causes, the result may occasionally be an inflammation.

If the observations of Maicaigne be true, namely, that the bacillus coli communis found in diarrheal discharges is much more virulent than that found in the healthy bowel, diarrhea might then become a potent factor in the production of the disease.

Any inflammatory state of the membrane in this region may at times play a part in the causation of the disease, especially when the mucous coat at the door of communication is involved, as, owing to the devitalized condition of the structures, the epithelium lining with its basement membrane may undergo a destructive process, the repair of which results in the formation of cicatricial bands. These mild catarrhal inflammations may play a more important rôle in the etiology than we give them credit for, and the fact must not be lost sight of that the powers of absorption which the appendix possesses are greatly enhanced during early life on account of the abundance of lymphoid tissue; its power of resistance gradually diminishes as the retrograde metamorphoses advance—which retrogression may easily become pathological—and, therefore, when attacked, it must necessarily succumb to a gradual process of destruction on account of its lessened vitality, which destruction may be complete or otherwise.

Exposure.—Deaver notes three cases that are interesting: one caused by wet feet, a second due to a cold shower taken after a hot bath, and a third from being chilled shortly after taking a full meal. These are possibilities, but are so remote that few of us will ever be able to record such instances.

Typhoid and Tuberculosis.—Both are minor factors in the causation of the disease; the former more frequently than the latter, as the solitary glands are often the seat of ulceration, the healing process resulting in the formation of a stricture. Both are common occurrences post-mortem, but are seldom met with after operation for appendicitis.

Exciting Causes.—Micro-organisms are without doubt prime factors in the production of appendicitis; they may act independently, but the invasion is more frequent-

ly secondary to a twist, kink, constriction, interference with circulation, the presence of a concretion or a foreign body or any irritating material, or condition that will bring about an action or virulent state of the bacillus coli communis, a natural inhabitant of the intestinal tract, which, under normal conditions, seems narmless. Welsh believes that the germ is innocent, so long as the integrity of the mucous membrane is maintained, but becomes pathogenic when the same is the seat of inflammation or of traumatism. Others disagree with this view, and Hodenpyl found numerous bacilli on the walls of the appendix without any lesion of the mucous membrane. This bacillus is without doubt a most important etiological factor in appendicitis, as Hodenpyl records its presence 34 out of 35 times; Hawkins, 57 times in 61 cases, and the experiences of many others have given like results.

Traumatism.—This occurs much less frequently than we are led to believe. It is of two kinds, direct and indirect; the former due to a pin or sharp foregn body that might enter the lumen of the appendix, causing an injury or abrasion of the mucous membrane, by penetrating a part of or the entire wall itself, while the latter is caused by violence directed through the abdominal wall. Instances of direct injury have often been recorded, and while it is possible for indirect violence to become an etiological factor, I feel positive that the appendix is already in a receptive state—from one or more of the predisposing causes mentioned—and, therefore, that the traumatism, while it may seem the active agent, is in all probability only a minor factor in the causation of appendicitis.

Foreign Bodies and Concretions.—Both, when they exist, can be credited with bringing about an inflammation. The former are introduced from without—seeds, gall-stones, pins, buttons, etc.—and may become a nucleus for the latter, which are always found in the appendix. Foreign bodies occur less frequently than is generally supposed and therefore do not play the important rôle with which they were formerly credited.

Concretions are of more frequent occurrence, and act first as irritants to the mucous membrane, producing catarrhal inflammation, facilitating the invasion by micro-organisms, and then by mechanical interference, either by occluding the lumen, acting as a ball valve at the opening itself or at the seat of a stricture, causing retention of secretion, with its consequent dilation and thinning of the walls of the organ, also by obstructing the circulation even so far as producing gangrene, and bringing about necrosis from pressure.

Actinomycosis.—Kelynack reports one case caused by this, Lange another; both, however, were in adults, and even here the instances are rare. The parasite has not been charged with producing appendicitis prior to the fifteenth year.

Although the case which I am about to relate does not come within the scope of my subject; it is a very interesting one and records the first attempt—successful or otherwise—to expel a fecal concretion by digital manipulation.

April 15 I was called to see a boy of 10 years, who for five or six days previous had suffered from constipation, nausea and general malaise. On the 13th, after an attempt to force a movement, he was taken with a slight pain about the region of the umbilicus, which continued at irregular intervals. The family noticed his condition, but did not attach any importance to it, and he was therefore permitted to take a horseback ride on the afternoon on the 14th. He returned in a short time, stating that the jolting increased his abdominal pain. After returning home he went to bed, and on the following morning visited Sunday-school, where he was seized with severe vomiting, the pain becoming so intense that he finally had an attack of syncope. I saw him a few hours later; he was on his side, with his thighs flexed, and stated that this was the most comfortable position; temperature was 101, pulse 114; he complained of continuous pain in the umbilical region, with rather frequent spasmodic seizures so severe as to cause him to cry out. The entire abdomen was found to be somewhat sensitive, but the tenderness was most marked in the right iliac fossa.

On careful digital examination the appendix was found in a perfect state of erection and in a somewhat unusual position, i. e., on the outer side of the gut, directed upward and outward toward the crest of the ilium. The abdominal wall was exceedingly thin, the muscles not very tense, and it was therefore exceptionally easy to make out the parts.

I judged that the appendix was about three inches in length, and about one inch from its distal end I discovered one small, but rather hard, concretion which I was able to dislodge and pressed toward the gut. A purgative was administered and an ice-bag applied.

April 16: Temperature, 101; pulse, 104; pain still present; tenderness in right iliac fossa more marked; appendix could be no longer made out distinctly. I suggested an operation, and while the father appreciated the condition, he preferred to wait till after my visit the following morning.

April 17: temperature, 99; pulse, 84; complained of no pain; tenderness still present, but greatly diminished. The appendix could be made out, but the concretion was no longer in evidence. The boy said he was perfectly well and complained of extreme hunger.

April 19 he was permitted to sit up, and passed out of my hands, as the parents considered a recurrence the main indication for an operation.

The expression of hardened fecal masses by digital manipulation, to my knowledge, has never before been referred to, and although the cases where this mode of procedure would be applicable must necessarily be few, yet I could not refrain from calling your attention to the manner in which this very satisfactory result was accomplished.

TRAUMATIC INSANITY.*

WITH REPORT OF A CASE.

E. G. CARPENTER, A.M., M.D.

Superintendent Columbus State Hospital; Professor of Nervous and Mental Diseases in Ohio Medical University; Neurologist to the Protestant Hospital.

COLUMBUS, OHIO.

The absence of sufficient clinical, pathologic and histologic data often give rise to mooted medical questions. Any evidence brought to view, having the semblance of fact, is grasped with avidity as an addition to the fabric of truth. As long as a medical question remains undefined, open to all contributors, so long is there an opportunity for error to hold sway, and thus lend perpetuity to its obscurity. The truth-seeker, therefore, must still busy himself in combating the false and vagarious, and not permit them to foist and fix themselves upon that which is in most need of truth and clearness.

In the light of to-day's science, moral causes figure more lightly in the etiology of insanity, and more stress

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is being laid on such physical causes as heredity, degeneracy, the diseases causing malnutrition, infectious diseases and autointoxication. Surgery has been strongly suggesting the participation of pelvic diseases, postoperative influences and traumatism as causal factors. In this eagerness to explain much of the obscurity in the cause of insanity, injuries to the cranium have been given some prominence. Believing it to be one of the rarer causes, I wish to offer the following report of a case, with some added observations:

CASE.—F. B., male, age 39, native of United States, single, musician; no family or personal history obtainable, except that patient habitually used alcohol to excess; not epileptic, sleep irregular, but general health and appetite good. Regarding his mental condition, the physician making out his commitment papers said of him: "No evidence of mentality since January 29, 1898. On that date he was struck by a motor car and sustained a fracture at the base of the skull."

The following statement was given by Dr. T. C. Hoover, visiting physician to St. Francis Hospital, where the patient was taken immediately after his injury:

The patient and his brother were street musicians and were struck by an electric car. As a result of the injuries received, the brother, who was blind, died, and our patient was an inmate of St. Francis Hospital from January 29 until March 14, when he was brought to the Columbus State Hospital. When received at St. Francis Hospital he was in an unconscious condition, and remained so for about a week. During this week he developed ecchymoses about the eyes. He had no hemorrhage from the ears, but presented in other ways signs of fracture at the base of the skull. As he gradually regained consciousness and was able to speak, he showed evidence of mental disturbance, which was characterized more by a condition of dementia than by any active mental symptoms. Before he left the hospital he expressed delusions, especially concerning his brother, whom he would not believe was dead. At the time of leaving the hospital he was able to be up and to walk about, and to perform some of the feats to which he had been accustomed on the streets. On March 14 his mental condition had not changed. He remained demented and held to his delusions, and in this condition he was sent to the Columbus State Hospital. Aside from the mental symptoms described, there had been no symptoms of cerebral or meningeal disease.

At the Columbus State Hospital: From the date of admission he was in fair physical condition, ate and slept well, and the functions of all his organs appeared to be physiologic, excepting that he complained of severe and almost constant frontal headache and pain in the right ear, which was quite deaf, but at no time was there any discharge from the ears. His mental condition changed very little, however. It was characterized by extreme loss of memory for both old and recent events, a lack of appreciation of his surroundings—in short, a case of advanced dementia. About the first of August these symptoms became more marked, and three weeks later he developed fever, went rapidly into a comatose condition, had frequent and prolonged attacks of convulsions in which all the extremities were involved, and died on August 28. His temperature during the last few days was in the vicinity of 103 F.

Autopsy twelve hours after death: Well-nourished male, apparently 35 years old, rigor mortis marked, no special marks on body. Internal organs in normal position, no exudates or other foreign substances in the various cavities.

Lungs: Both have old adhesions at apices and posteriorly, are edematous, especially in lower lobes; no consolidation.

Heart: Marked hypertrophy of left ventricle, valves throughout in good condition, muscle rather soft and shows streaks of fat, especially plain on the papillary muscles.

Spleen: Slightly enlarged, capsule thickened and opaque, pulp soft, rich in blood, with stroma well marked.

Kidneys: Capsule adherent, tearing off kidney substance on removal; substance markedly yellow, in spite of the abundance of blood it contains.

Ureters and bladder show no change.

Liver: Large; weight, 1600 gm.; very light in color and soft; fatty, rich in blood.

Gall-bladder: Normal size; contains a quantity of light-colored bile.

Gall-ducts: Pervious.

Stomach and intestines present no abnormal conditions, nor does the pancreas.

The aorta, both at the arch and in the descending portion, is rough, with elevated yellow patches and calcareous patches, especially in the ascending portion of the arch.

Brain: Skull-cap thin; longitudinal sinus contains fluid blood; dura thick, opaque; vessels distended. Two large dark-red patches over the parietofrontal region of the right side, caused by comparatively recent hemorrhage confined between the dura, and a thick well-organized exudate extending on the inner side of the dura over both hemispheres. Under the pia-arachnoid is a large amount of yellow pus, enveloping the entire brain, especially thick over the base, and extending the entire length of the cord. The vessels of the pia engorged. Weight of brain, 1500 gm. Ventricles filled with the same kind of pus as that under the pia. Bacteriologic cultures made from this pus gave a pure culture of a short, thick, straight bacillus, which is also seen in the stained sections of the brain and cord, lying in the pus that fills the subpial spaces and the central canal of the cord. A slight scratch on our pathologist's finger, unnoticed at the time of the autopsy, caused a severe infection, accompanied with high fever and rapid enlargement of the axillary glands. Microscopic sections of the cortex and of the cord showed the blood-vessels to be unusually numerous, prominent and distended with blood, and a diffuse infiltration of round cells with well-stained nuclei.

On stripping off the dura from the floor of the cranial cavity, an old fracture of the left side of the occipital bone was disclosed, which had been faultily repaired. At the left posterior quadrant of the foramen magnum a lens-shaped piece of bone, 5 cm. long by 2.2 cm. wide, and slightly elevated above the surrounding parts, was broken loose, having been attached anteriorly by the narrow strip of bone lying between the posterior condyloid foramen and the margin of the foramen magnum, and attached posteriorly for a distance of 2.5 cm. where the fracture had completely united, leaving a curved line 3 cm. in length between these two points, ununited and open. This line of fracture crossed at a very acute angle the inferior curved line of the occipital bone, and ended in the median line, one-third of the distance from the inferior curved line to the occipital protuberance. Here it met with another very distinct line of fracture, extending from the posterior median edge of the foramen magnum, backward and upward, across the middle of the occipital bone almost to its upper margin, where

it made an abrupt curve to the left across the parietal bone, becoming less distinct, and finally being lost near the posterior edge of the temporal bone. This line of fracture, 16 cm. long, was united except for a distance of 2 cm. at its lower extremity, where there was a wide gap, with thick, well-rounded edges, forming part of the plane side of the before-mentioned lens-shaped piece of bone broken from the surrounding part. The bone about these lines of fracture was intensely injected. The dura was thickened over these parts, but shows no scars, nor were the sinuses involved.

Further preparation of the base of the skull showed other fractures. The apex of the petrous portion of the right temporal bone was cut off 3 cm. from its tip by a line of fracture which ran on the anterior aspect from the foramen spinosum upward and outward, crossing the superior ridge just internal to the eminence for the superior semicircular canal, then downward on the posterior aspect to the outer extremity of the foramen lacerum posterius. The articulation behind with the basilar process of the occipital bone, as well as the articulation in front with the great wing of the sphenoid, were both distinctly separated, and show evidences of the absorption of bone. The articulation of the left petrous portion with the basilar process of the occipital was also somewhat loosened.

The pathological findings in this case, then are: An extensive fracture of the base of the skull, a traumatic pachymeningitis hemorrhagica interna, with recent hemorrhages into the organized membrane, and an acute purulent meningo-encephalitis, all these superimposed upon a chronic alcohol poisoning, as shown by the arterial changes and the fatty degeneration of heart, liver and kidneys. Our explanation of the fracture is this: Severe mechanical violence, applied to left side of the occiput directly, caused the fracture of the left occipital bone. The strong bridge formed by the petrous portions of the two temporals and the basilar process of the occipital wedged in between them transmitted the force of the blow to the right side of the skull, where it expended itself in loosening the articulations with the occipital bone and in producing the transverse fracture of the petrous portion of the right temporal bone at its point of least resistance, and at the same time damaging the structure of the internal ear on that side. The avenue of infection of the subsequent purulent encephalitis was undoubtedly this last fracture, as there was no focus of suppuration elsewhere in the body from which infection might secondarily have taken place.

The sudden onset of the acute symptoms six months after the injury, and the character of the findings leave no doubt that the meningo-encephalitis was a terminal accident and had nothing to do with the causation of the insanity in this case. Alcohol as the predisposing cause, and the concussion of the brain and pressure of hemorrhage caused by the severe trauma—a motor car fracturing the base of the skull—as the direct exciting causes, present much more probable claims for recognition as etiological factors in this case.

I think the multiplicity of cause in insanity can be distinctly enunciated from common ground. From the same point of understanding, complexity of cause must be admitted. It is this complexity which makes it questionable whether we are justified in allowing singleness of cause in any given case. A number of preparatory conditions, if present, would explain the ease with which a single incident, like traumatism, might be a determining factor. These conditions may be:

1, The neurotic temperament; 2, hereditary predisposition to insanity; 3, acquired predisposition; 4, operation of some great moral stress.

Regarding the first, I can do no better than refer to Duret's well-known essay, "Sur les Traumatismes Cerebraux," to show how in the neurotic type injury might give emphasis to the nervous phenomena resulting from irritation to the dura mater. His conclusions are as follows:

1. That the dura mater is abundantly supplied by sensory nerves from the fifth pair, by anterior, middle, and posterior branches. He suggests the possibility of special terminal organs, which increase the delicacy of the sensibility of the membrane and account for the marked "physiological" troubles ensuing on their irritation.

2. That irritation of the dura mater, especially of its inner surface, causes pain.

3. That irritation of its nerves causes reflex movements in both voluntary and involuntary muscles, but not so local or definite as those caused by irritation of the cortex. They are not more localized than those caused by irritation of peripheral sensory nerves.

4. His cases of purposely-produced depressed fractures of the skull in animals showed all the reflex results, as of irritation of the dura mater, both on the same and on the opposite side; and not as of direct cortical irritation. He made this clear by finding, post-mortem, the cortex uninjured. If a superfluous amount of violence was used, the symptoms were rather those of cerebral commotion.

5. That the secondary contractures, which follow injury, are due to dura mater reflexes, appearing almost indiscriminately on the same and opposite sides.

6. That reflex vasomotor disturbances are also the result of irritation of the nerves of the dura, consisting in spasm or paralysis of cerebral and ocular vessels, and that light is thus shed on the causation of secondary effects of cerebral traumatism, through the agency of cerebral vascular conditions.

From these conclusions of Duret, it can readily be seen that an injury producing such a degree of irritation to the membranes as to cause spasms, contractures, and paralysis could also cause such an amount of disturbance to the integral cell elements of the cortex as to induce a condition of insanity.

In predisposition both by heredity and that acquired, as by the taking of some toxic, such as alcohol, it must be admitted we have a cell tissue of lessened potentiality to resist and to inhibit. With such an established condition of the cerebrum, the commotion caused by either a direct impact on the brain, or that brought about by the reflex effect of some more distal traumatism, might be sufficient to establish a positive pathologic state, associated with symptoms of insanity.

The fourth possible predisposing condition includes those who at the time of the receipt of a cranial injury are suffering from some great moral stress. The depression of the vital functions, incidental to a bereavement, a loss, or a disappointment, should not be discounted. While moral causes should be weighed with allowance, we are forced to note their inhibiting effect upon the heart's action, as well as that upon the secretory functions. How this in turn harasses the whole digestive tract, and blocks the assimilation! Every organ of the body suffers from want of proper nutrition. The brain is among the earliest to succumb. Must we not grant that an impoverished brain is a most susceptible organ; and that an injury, though slight, under such conditions might prove a source of mental disturbance. The con-

clusion we can reasonably draw is that an injury to the cranium, received upon such a basis of predisposing conditions as above enumerated, should not be estimated as the cause itself, but as the final determining factor of the mental disorder consequent to it. The causes of insanity are so complex that I doubt if we are justified in saying that injury is a cause in itself.

Kiernan estimated that in 45 of the 2200 patients under his care, the disease was due to traumatism. Hay found 60 cases in 2500. Starr, in "Brain Surgery," says that 2 per cent. is a fair estimate. Clouston ascribes a few cases of insanity to blows on the head, falls, and other traumatic injuries to the brain. He says, "We have had twelve cases of traumatic insanity and the insanity of sunstroke sent to the Royal Edinburgh Asylum in the past nine years, which is only .33 per cent. of the admissions." Krafft-Ebing says traumatism is a common factor in the cause of insanity, and yet found but 1 per cent. out of 462 cases. It is doubtful if experience and close observation will bear out the truth of the statement as to its being a common factor. I find in the Columbus State Hospital, with 1400 patients, 10 cases, or .7 per cent., which might be regarded with some certainty as due to traumatism of the brain.

The question of interval of time between the occurrence of the injury and the insanity should be carefully considered. Dr. J. Christian[1], analyzing 100 cases of traumatic insanity, finds in 54 cases the interval was from 1 to 5 years; in 21 from 5 to 10, in 11 from 10 to 20, in 7 from 20 to 30, and in 7 more than 30 years.

In the ten cases in the Columbus State Hospital, the time between the injury and the initial symptoms of insanity varied from the time of the injury to fifteen years, often with no other evidence that the injury was a causal factor than that the mental disease followed it in time.

Two other considerations are now to be borne in mind: 1, the kind of an instrument producing the blow, and the kind of an injury received from a fall; 2, whether these agents produce a localized or a diffused effect.

From the analysis of twelve cases in the American War of the Rebellion, locality of injury is an important point.

In 3 cases the middle, in 4 the anterior, in 1 the posterior fossa was affected; in one case the anterior and posterior fossæ, in 1 the middle and posterior fossæ, in 2 cases the anterior and middle fossæ were affected.

From this it appears that injury to the base of the skull is most prone to yield subequent mental disturbance, and that the middle fossa is more frequently involved than the other parts.

SUMMARY.

1. Conditions already present may predispose to the causing of insanity by an injury.
2. The insanity should speedily follow the injury.
3. The extent of the concussion may be a determining factor.
4. The locality on the cranium may be an important consideration.

DISCUSSION.

DR. HOUGH—It is the fortune of the general practitioner to see not infrequently cases of injuries to the head, which, while not making the sufferer necessarily an inmate of an insane asylum, to a certain extent incapacitate him for the subsequent following of his occupation. A typical instance is a carpenter of middle age who was struck by an electric car, producing fractures of the skull. He recovered from his injuries; there was no paralysis at the time, but a year afterward he came to see me, and told me—and his wife corroborated his assertion—that his memory was seriously impaired; that there was a certain amount of difficulty in using the left arm, and that he had been unable to do any work since the accident. That class of permanent result from head injuries is by no means uncommon.

DR. RICHARD DEWEY, Wauwatosa, Wis.—I was struck, while listening to the paper, with one fact which has arrested my attention before in traumatic cases; that was the association of alcoholic excesses. In a considerable number of my cases excess in alcohol was closely associated with the insanity or with injuries of the brain in some cases not associated with insanity, so much so that it has been questioned whether, without the added element of alcoholism, the condition of insanity would have developed. The fact that there are many cases in which very severe injuries of the head are recovered from without serious results, without insanity developing seems to indicate that this may be the case.

DR. G. W. MCCASKEY, Fort Wayne, Ind.—I wish to refer to one case that came under my observation three or four years ago. The patient was examined with a view to securing a pension. During the Civil War he was in action and was supposed to have been killed. He was evidently left comatose upon the field. He disappeared and was not found for several years. During all this time he had forgotten his own identity. After four or five years he regained consciousness of his own identity. During this time, so far as could be traced, there was no great amount of aberration in performing the menial duties which he assumed. Very suddenly his identity returned to him, and he came home. The case was interesting to me because of the sudden loss of consciousness of his identity and its sudden return. Careful examination of the head showed no external sign of injury whatever, and I presume there was nothing more than concussion, although there may have been a fracture of the inner table.

DR. T. J. HAPPEL, Trenton, Tenn.—I am surprised at the statement that there are so few such cases. Within the last few months I have come in contact with three; one case in which trephining was done to relieve a weak-minded condition, which was the result of an injury. I know a man in active business, with an irritable mental condition, owing to cranial injury; and during the last few months I saw a man who had a history of having been struck with an iron on the head during the late war, and was recently again struck with a stick on the head and at once developed acute mania.

DR. DRAYTON, New York—It is indeed fortunate that there are so few instances in which the results are serious. When we consider the free use of the club in some of our cities by those who are supposed to be authorized to use their batons of office, we can congratulate ourselves that in nearly all of these cases of severe injuries to the head there is prompt recovery. I can recall two or three instances in which there was very marked insanity of the acute order for several months. I gave a happy prognosis to those interested in the victims, and that prognosis was verified by a subsidence of the symptoms and the return of the individuals to their vocations and former ways of life. I therefore say that society should be congratulated on the very happy treatment by nature of these cases, and that we have so very few instances in which the results are chronic. Nevertheless, I am far from advocating a policy in the management of municipal affairs that is indifferent to the manner in which the policeman employs his club.

DR. E. T. CARPENTER—The fact of the case becoming insane by an accident, and being speedily operated on, does not argue that the case would have recovered without the operation, and at the same time does not argue really that the accident was the direct cause of the condition, notwithstanding I say in my conclusions that the insanity may occur speedily after the injury. The location of the injury has something to do with causing the insanity. I have a table of the cases during the War of the Rebellion which shows that injuries to the base of the skull are most apt to result in mental disturbances.

1. Arch. de Neurologie, viii.

Plague at Glasgow.—Three persons, all in one family, are suffering from what is supposed to be the bubonic plague. They have been placed in the hands of the medical authorities.

MEASUREMENTS OF CHICAGO SCHOOL CHILDREN.*

W. S. CHRISTOPHER, M.D.

Professor Pediatrics, Medical Department, University of Illinois; Professor Diseases of Children, Chicago Policlinic; Chairman Child Study Committee, Chicago Board of Education.

CHICAGO.

For the past year measurements of children in the Chicago public schools have been made under my direction. The work was started March 6, 1899, and continued throughout the remainder of the school year with Mr. F. W. Smedley and Mr. C. Victor Campbell as operators. This corps was increased in September by the addition of Messrs. Donald P. McMillan and C. C. Krauskopf as paid assistants, and Miss A. Loesch as a voluntary assistant. Mr. F. W. Smedley, who heads the corps, had been engaged for a number of years in laboratory work in physiological psychology in the University of Chicago, previous to his appointment for this duty by the Board of Education of Chicago. He is a man of large experience, thoroughly scientific, and eminently qualified for the work. The remaining assistants were appointed after competitive examination; of these, Mr. McMillan and Miss Loesch had also previously had extensive experience in laboratory psychology, and Messrs. Campbell and Krauskopf were teachers of ability and standing. From the personnel of the corps of observers, I am justified in claiming for the results an unusually high degree of accuracy. My own part in the matter has consisted in determining the observations to be made, watching the work, and later, in discussing the results in conjunction with Mr. Smedley.

Last year the work included only the determination of the following points, with each pupil: Height; height sitting; weight; ergograph work; strength of grip, right and left; hearing, right and left; "vital capacity." The observations were limited to these few points in order that as large a number of pupils as possible could be examined. In all, about 1200 pupils were examined from March to June, inclusive, and the results obtained were so encouraging that the Board of Education agreed to continue the work and established as a permanent part of the school system a department of "Child-Study and Pedagogic Investigation," and appointed Mr. Smedley as director of the department. I believe this is the first instance of a municipal board appropriating money for research work, a fact which redounds greatly to its credit. During the present school year the same observations have been continued, in order to obtain sufficient number of observations to establish reliable norms; the total number now, April 22, 1900, amounting to 5636. In addition to these observations, sight tests have been made. Acuity of vision has been determined by Snellen's cards, and examinations have been made as to color-blindness. In addition to this, obvious developmental defects have been noted, and signs of fatigue and nerve-strain recorded.

DESCRIPTION OF INSTRUMENTS AND METHODS.

In measuring height, and height sitting, a stadiometer of the Bertillon pattern has been used. In taking heights, the height of the heels has been accurately calipered and subtracted from the gross height, giving a net height, which was found on trial never to differ from the height measured in stocking feet more than 2 millimeters, and to present an average error of about 1 millimeter.

The weights were taken with ordinary schoolroom clothing. Last year 121 children brought back their clothing to be weighed. This was in the latter part of the month of May, 1899, and it was found that the clothing ranged in weight between 2.8 and 8.2 per cent. of the gross weight of the child. The average weight of boys' clothing was 5.8 per cent. of the entire weight, and of girls' clothing was 5.5 per cent. of the gross weight of the individual. The clothing in the great majority of the cases ranged between 4 and 7 per cent. of the gross weight.

Strength of grip was measured until recently, by an ordinary two-spring dynamometer, graded in kilograms This dynamometer was tested from time to time to insure its accuracy. Lately an adjustable dynamometer, invented by Mr. Smedley, has been employed. This dynamometer is adjusted to the size of the hand. Each pupil is given several trials of strength, and the best result obtainable is recorded.

The old term "vital capacity" is employed to designate the amount of air which can be forcibly expired. Two wet spirometers were employed, one made especially for this work and one purchased from the Narraganset Machine Company. As neither differs materially from the ordinary wet spirometers, a detailed description seems unnecessary. In using the spirometer each child tested was given several trials, and the best obtainable result recorded.

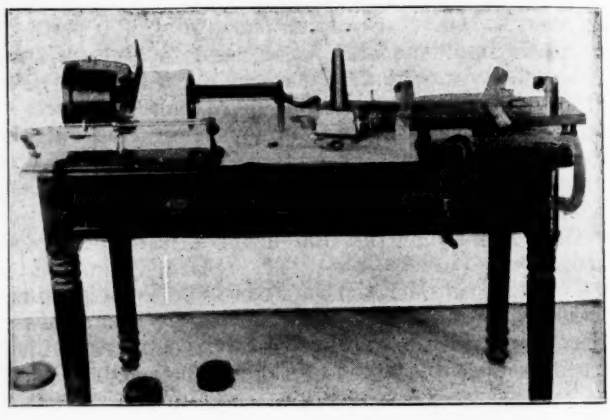

Fig. 1.—Ergograph.

Hearing was tested with the audiometer invented by Prof. C. E. Seashore, of the Iowa State University. This is an electric apparatus in which the loudness of the sound produced is definitely determined by resistance coils. It is graduated by an arbitrary scale ranging from 0 to 40. The normal point on the instrument used seems to be about 11. Numbers above this represent degrees of difficulty of hearing, while lower numbers indicate special acuteness of hearing. I am not yet ready to present the results of the tests on hearing.

Fatigue and endurance were tested with the ergograph shown in Fig. 1. The instrument employed was Mosso's ergograph, modified by Mr. F. W. Smedley.

DESCRIPTION OF ERGOGRAPH.

The apparatus consists of two parts, a fixing board, and a traveler mounted on a suitable frame. The forearm is placed on the fixing board in the prone position, and held in place by suitable straps and clamps. There are also clamps to hold down the index and third fingers, leaving the middle finger free. It is the design of the apparatus to hold the forearm so firmly in position that only the flexors of the middle finger can be

* Read before the American Pediatric Society, Washington, D. C., May 3, 1900.

brought into action. This it does not accomplish perfectly, but as the error is common to all those examined, the influence of the error is practically eliminated in comparative results. From the traveler two cords extend, one toward the fixing board, carrying a clamp to attach it to the free middle finger of the subject examined; the other, extending in the opposite direction over a pulley, is provided with a device for holding weights. Attached to the traveler and extending laterally, is an arm which carries a pen, which, in its turn, bears upon the surface of the drum of a kymograph. Attached to the side of the frame is an endless tape, which is carried forward with each return movement of the traveler, and thus sums up the total height which the weight is lifted. The ergograph was operated in the following manner: The child's forearm being

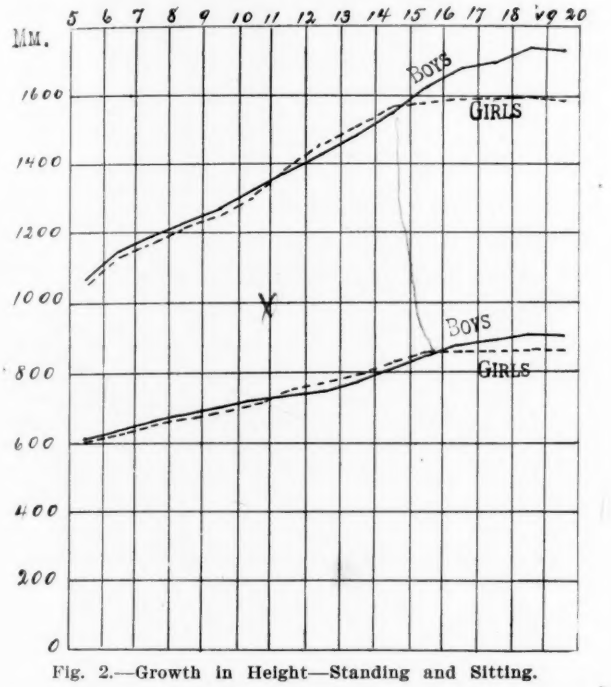

Fig. 2.—Growth in Height—Standing and Sitting.

NOTE.—The stature of girls is less than that of boys up to the age of 11, when the girls surpass the boys and remain greater in stature up to the age of 14. After 14 girls advance in stature very slowly and very slightly, while boys continue to increase until 18. This fact is in harmony with the common observation of the earlier occurrence of puberty, with its greater activity, in girls than in boys. The lower lines representing height sitting, show that in this measurement girls also surpass boys at the same age, as in stature. But they maintain this superiority in this measurement for one year longer than they do in stature, which means that the more rapid growth of the boy at this age is in the lower extremities rather than in the trunk.

clamped in position, the cord from the traveler was clamped to its middle finger, and the pulley-cord loaded with a weight equal to 7 per cent. of the weight of the child. On flexing the finger the weight was lifted, and the pen made a corresponding mark upon the kymograph. On extending the finger the traveler dropped back to its original position, the measuring tape was advanced a distance equal to the height the weight had been raised, and the return stroke on the kymograph was made. By the aid of a metronome these flexions and extensions of the finger were made each second, so that in ninety seconds, the time employed in each experiment, the weight should be lifted forty-five times. The actual number of lifts, however, varied occasionally from this number, reaching forty-eight or forty-nine in some instances, and not quite equaling forty-five in others. In all cases, however, the work was continued for ninety seconds, and the amount of work done in centimeter-kilograms recorded. In the case of very obese pupils it is to be noted that 7 per cent. of the total weight, including as it did 7 per cent. of the weight of the fat, as well as 7 per cent. of the weight of the active tissues of the body, proved to be excessive, and they were unable to continue to move the weight throughout the whole period of ninety seconds. Nevertheless the actual work done came out in centimeter-kilograms, and was suitable for comparisons.

From these measurements a table of norms has been computed. In these tables, the ages refer to the age at the last birthday. The number of each age examined is also given. In accordance with the general practice, the norms are expressed in medians instead of averages. In other portions of this work where small numbers

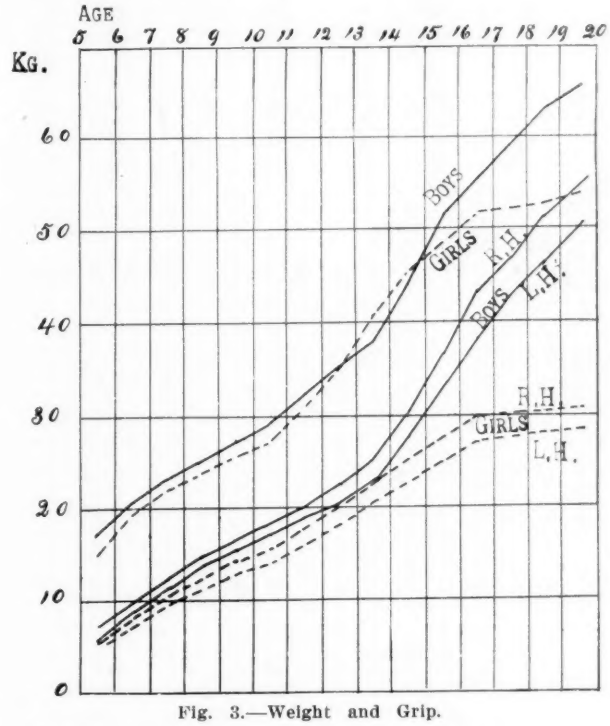

Fig. 3.—Weight and Grip.

The upper lines show the weight-curves of boys and girls. On comparison with Fig. 2 it is seen that the weight of the girl surpasses the weight of the boy, something over a year later than her stature surpasses his; and the curves recross at the same age in weight and height, so that the girl holds her superiority in weight over the boy for a shorter period than her superiority in stature. The curves also show that while the stature of girls increases very slowly after 14, the weight continues to increase rapidly to 16 and less rapidly thereafter. The grip-curves shown also in this figure indicate marked increase in the rate of gain in grip in boys commencing at the age of puberty—a gain which continues, at least as far as our own observations go. In girls, no such acceleration in muscular strength at puberty is shown, and after 16, practically no increase in strength of grip occurs. This chart, therefore, exhibits the period of life at which, and the extent to which, the well-known muscular differentiation of the sexes occurs.

are dealt with, averages are employed in the belief that they are more correct with small numbers. These tables of norms are based upon the examination of 5636 children, 2537 boys and 3099 girls, which include all examined to April 22, 1900. They consist of the pupils in the Alcott, Kozminski, Andersen and Tennyson grammar schools, together with the eighth grade and kindergarten pupils in the Hoyne school, the kindergarten pupils in the Burr school, and also the pupils in the Lake View High School, and about half the pupils in the Englewood High School, at which latter school the work of examination is now going on. In all of these

schools, with the possible exception of the Andersen school, the pupils are largely of American parentage, and are the children of parents in comfortable circumstances and are uniformly well fed and well clothed. They therefore may be taken to represent normal American children in comfortable circumstances. The children at the Andersen school, about 1600 in number, are less favorably situated, and the medians obtained from that school alone, are, as a rule, less than those from the other schools. In the medians given in the tables all of the schools mentioned are included.

TABLE 1. NORMS FOR BOYS.

Age.	Number examined.	Height. mm.	Height Sitting. mm.	Weight. kg.	Work. cm. kg.	Grip. R. kg.	Grip. L. kg.	Vital Capacity. c.c.
6.	224	1134	636	20,550	103.8	10	9.5	1100
7.	230	1190	658	22,550	135.9	11·5	11	1250
8.	225	1234	675	24,550	169.1	13	12	1350
9.	228	1283	699	27,513	201 6	16	15	1550
10.	255	1328	714	29,600	233.1	18	17	1625
11.	228	1372	728	32,213	259.6	20	19	1800
12.	255	1419	747	35,400	302.4	22	20	1950
13.	230	1476	770	38,688	345.8	25	23	2200
14.	234	1545	805	44,150	406.2	30	28	2500
15.	176	1620	839	51,113	524.4	36	33	2825
16.	122	1678	881	55,838	578.9	43	38	3375
17.	78	1684	897	59,175	649.6	46	43	3550
18.	26	1742	920	63,400	715.6	51	46.5	3600
19.	20	1733	918	66,000	705 2	54.5	52	3850
20.	6	1709	906	68,050	809 1	58.5	49	3500

TABLE 2. NORMS FOR GIRLS.

Age.	Number examined.	Height. mm.	Height sitting. mm.	Weight. kg.	Work. cm. kg.	Grip. R. kg.	Grip. L. kg.	Vital Capacity. c.c.
6.	203	1127	626	19,900	93	9.3	8.5	1000
7.	238	1180	655	21,850	114	10.5	10	1100
8.	232	1231	674	23,913	141.8	11.5	11	1200
9.	221	1276	690	26,300	168.6	14	13	1350
10.	240	1321	709	28,488	182.7	15	14	1450
11.	225	1383	736	31,225	218.4	18	16	1600
12.	248	1441	762	35,725	237	20	18	1700
13.	256	1522	798	40,700	277.8	23	21	1900
14.	278	1563	830	46,312	336	26	22	2063
15.	328	1571	841	48,925	349.2	28	25	2225
16.	284	1596	849	51,988	374 6	30	27	2300
17.	198	1597	850	51,838	358.8	30	27	2300
18.	105	1600	863	52,675	368	30	28	2350
19.	30	1595	851	53,788	376.9	31	28.5	2400
20.	13	1581	834	49,175	352 8	29.3	25.5	2300

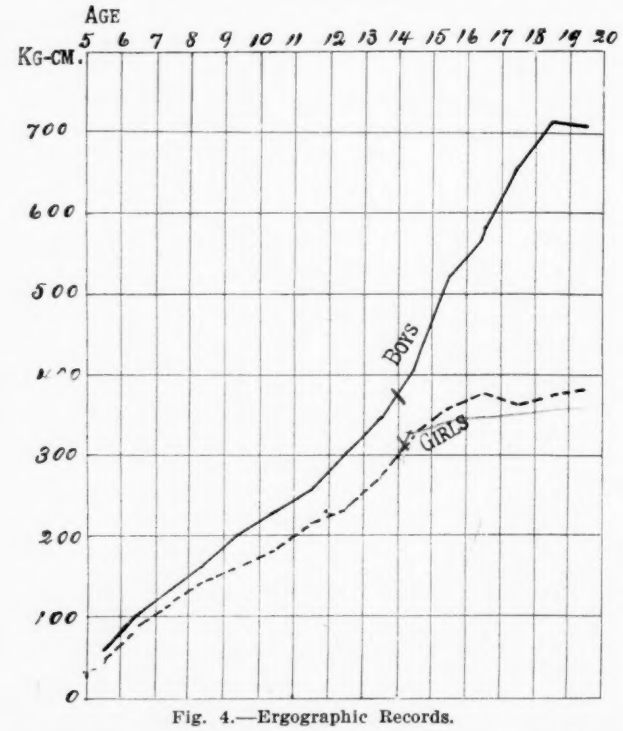

Fig. 4.—Ergographic Records.

Ergographic work is an index of general endurance. The chart shows that up to the age of 14 the girls' power is a fairly constant percentage of the boys'. From 14 years on the girls' endurance remains practically stationary, while that of the boys not only continues to increase, but increases at even a greater rate than it had previously.

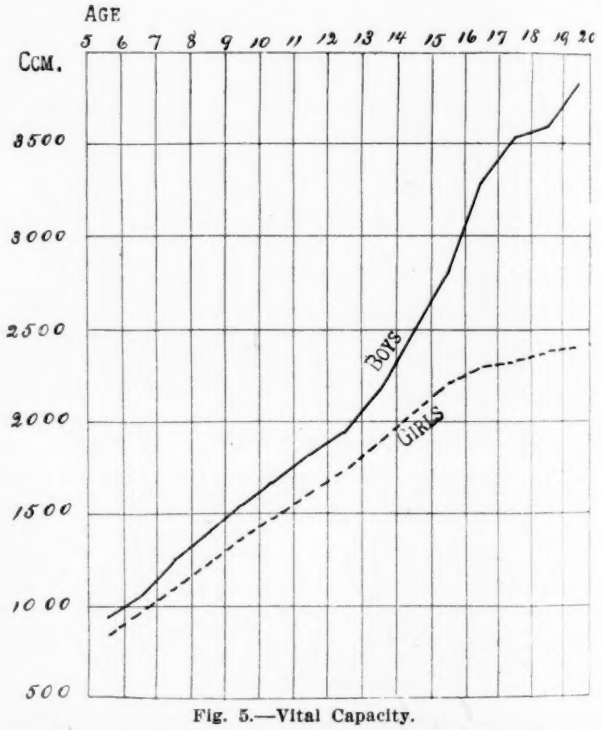

Fig. 5.—Vital Capacity.

The term "vital capacity" is here used in its old sense of volume of air emitted in forced expiration. The curves in Figs. 4 and 5 appear on comparison to be almost duplicates of each other, indicating a remarkably close relationship between "vital capacity" and endurance as shown by the ergograph. Which of these is cause and which effect, I have no means of determining.

The accompanying charts, Figs. 2, 3, 4 and 5, illustrate graphically the facts given in the foregoing table of norms.

ERGOGRAPHIC WORK.

The ergograph gives two kinds of information concerning the individual tested. 1. It shows the amount of energy which the individual exerts in a fixed time, and under fixed conditions. This energy may be, and in this work is, expressed in centimeter-kilograms, which affords a means of comparing the ergographic work of different individuals. 2. The ergographic tracing, or ergogram, made coincidentally on the kymograph, exhibits the manner in which this energy has been exerted.

In operating the ergograph, as previously described, loaded with 7 per cent. of the gross weight of the individual, it was found that some time between 90 and 150 seconds of work, such fatigue was produced as to render it impossible to move the weight at all. After working the ergograph to complete exhaustion, the flexors involved remained sore for several days. Inasmuch as it would be unwise to submit large numbers of school children to such inconvenience the limit of ninety seconds of work was adopted. In this limit the strongest pupils would begin to show fatigue, and very obese pupils would become completely exhausted before the time had expired. With kindergarten pupils, the ergograph can not be used, and, indeed, it can hardly be considered reliable with children under 7 years. At this age and above, however, its use is very satisfactory.

The normal ergographic work at the different ages is illustrated graphically in Fig. 4.

On examining this chart, it is seen that at all ages girls exhibit less endurance than boys, but that up to the age of 14 the girls' power is a fairly constant percentage of the boys'. After 14, however, a marked change occurs. From 14 years on, the girls' endurance remains practically stationary, while that of the boys not only continues to increase, but even increases at a greater rate than it had previously.

Such a fact seems of prime importance. It must have some bearing on the development of the growing girl, and especially on the development of the reproductive organs. It is a factor which ought also to be taken into account in school work.

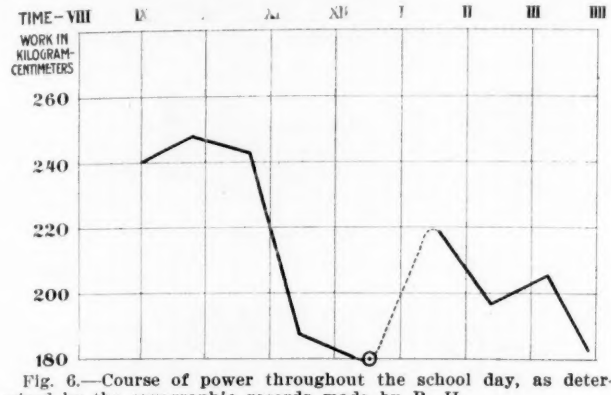

Fig. 6.—Course of power throughout the school day, as determined by the ergographic records made by R. H.

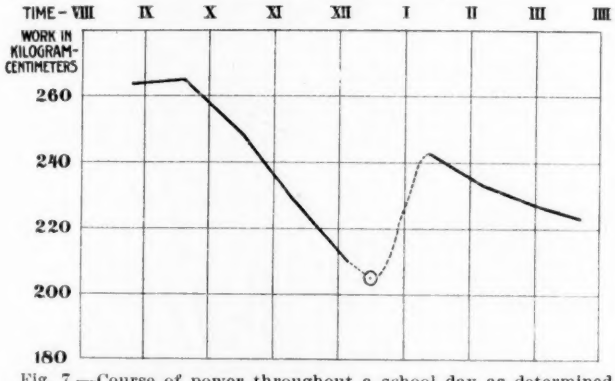

Fig. 7.—Course of power throughout a school day as determined by the average ergographic records of eight pupils of the Alcott School.

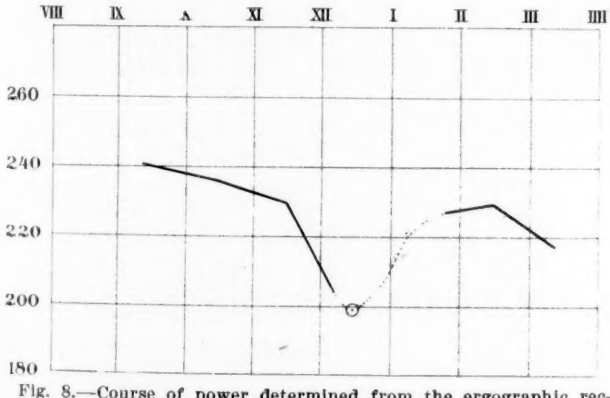

Fig. 8.—Course of power determined from the ergographic records of 1127 pupils of the Alcott School.

In determining the variation in the course of power during the day, observations were made on one individual at the Alcott school, at intervals of about forty minutes, and also on eight pupils at about the same intervals the latter results being grouped and averaged. In addition, the results by hours of the whole school, obtained through the three months of examination, were charted. In examining the school, all the children in one room were taken one at a time until all had been taken, and inasmuch as not more than twenty could be examined in the course of a school day, children of all ages were found very evenly distributed throughout all the hours of the school day. The results obtained are shown in the accompanying charts, the resemblance of which to each other is certainly striking. (Figs. 6, 7 and 8.)

Fig. 6 shows the course of power during the day of the single pupil, R. H. Fig. 7 shows the course of power during the day of the eight pupils. Fig. 8 shows the course of power during the day of all the pupils in the Alcott school. At the time these observations were made the pupils of this school did not have the usual morning recess.

The charts show that the child is at its best during the first morning hour, and that after 10 a. m. its power decreases somewhat rapidly. They also show that in the afternoon the power does not reach the maximum

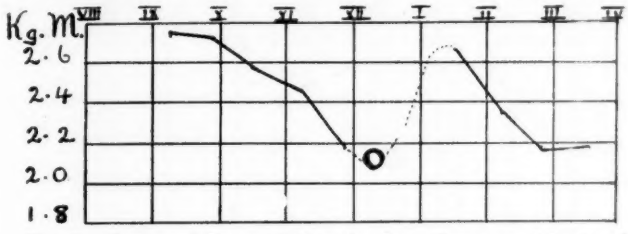

Fig. 9.—Course of Power during the day—Tennyson School—of all the pupils tested.

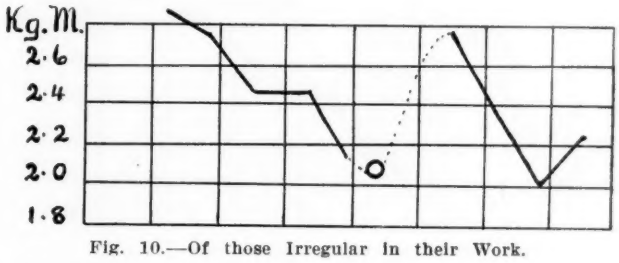

Fig. 10.—Of those Irregular in their Work.

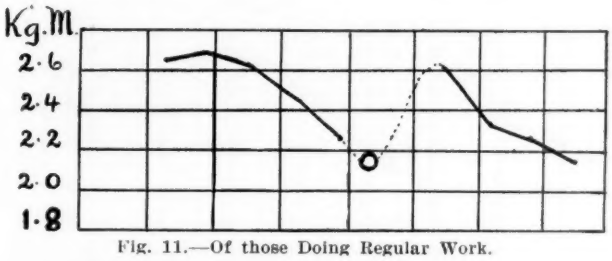

Fig. 11.—Of those Doing Regular Work.

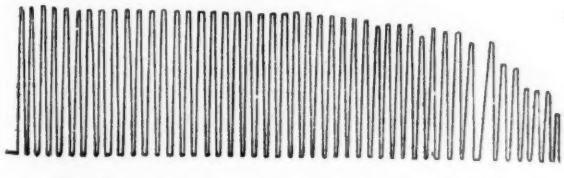

Fig. 12.—2:00 p.m. 3.7 kg. 150 cm. 46 lifts.

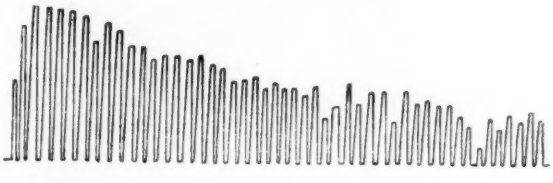

Fig. 13.—2:20 p.m. 3.9 kg. 92 cm. 49 lifts.

shown in the morning, but it is better maintained, the curve not decreasing so rapidly.

An interesting confirmation of this matter was unexpectedly obtained at the Tennyson school. At that school it was decided to take the course of power, during the day, of twelve pupils. In the case of four of them, the results did not tally at all with previous experience, these four showing unusual power in the afternoon. Upon investigation it was found that the teacher of these four had been called from school in the afternoon, and that they had had no work, but had employed themselves, as they said, in having a good time.

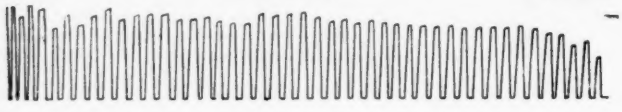

Fig. 14.—9:00. 80 cm.

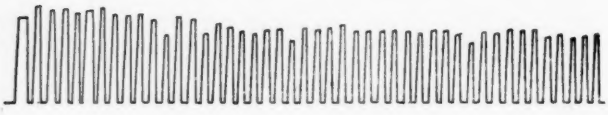

Fig. 15.—9:47. 83 cm.

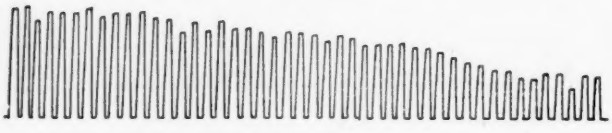

Fig. 16.—10:40. 81 cm.

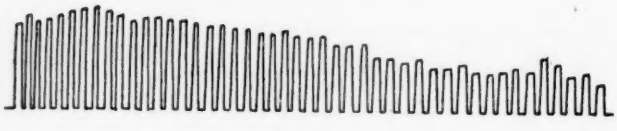

Fig. 17.—11:30. 63 cm.

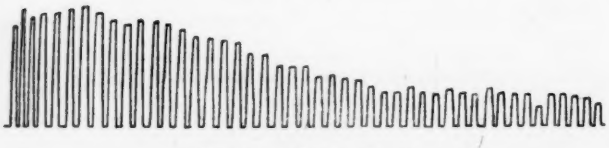

Fig. 18.—12:18. 60 cm.

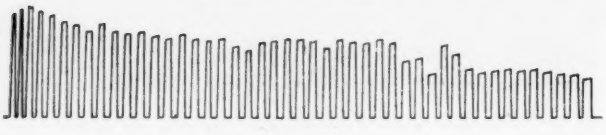

Fig. 19.—1:34. 73 cm.

The charts illustrating these facts are shown in Figs. 9, 10, and 11.

The ergogram, illustrating the manner in which the energy is exerted, often gives most interesting information. In Fig. 12 is shown an ergogram produced by a robust man, whose muscles are well controlled, and whose strength is good. In Fig. 13 is shown the ergogram of a so-called "nervous" child, one whose inhibition is defective and whose efferent nerve impulses are erratic. The want of muscular control is shown by the irregularity in the heights of the lifts, the uneven spacing, and the excessive number of lifts, showing the failure to keep time with the metronome. The ergograms of R. H., whose course of power throughout the day is shown in Fig. 6, are given in Figs. 14-22, inclusive. With each ergogram is given the time at which it was taken, and also the total height the weight was lifted. Fig. 23 shows the best woman's record. Fig. 24 shows best boy's record for height lifted. Fig. 25 is the ergogram of a sprinter. This ergogram, which is unusually strong at the beginning, shows sudden dropping off, with complete exhaustion at the end of thirty-four lifts, or seventy-eight seconds. This boy, 18 years old, says he runs distances up to 300 yards, but can not run 330 yards. Fig. 26 is one of especial interest to medical men. It was made by a girl, aged 14, who was suffering from chorea. The tracing is certainly typically choreic in its irregularities, but the great interest lies in the exhibition of endurance. The work was continued

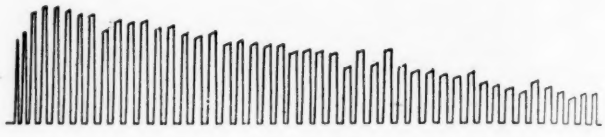

Fig. 20.—2:20. 66 cm.

Fig. 21.—3:13. 69 cm.

Fig. 22.—3:55. 61 cm.

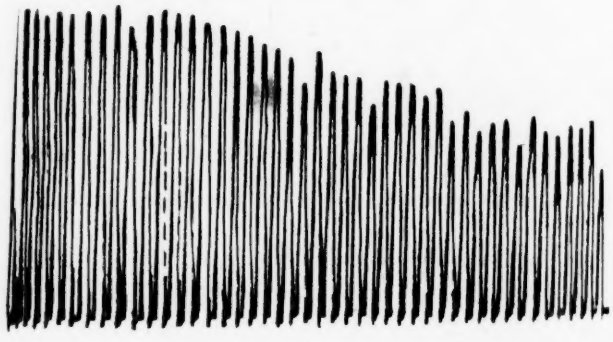

Fig. 23.—Best Woman's Record. Age 17. Plays piano very little. 2:30 p.m. 3.7 kg. 231 cm. 44 lifts.

for three full minutes without any evidence of approaching exhaustion. It was stopped at this point because the end of the paper on the kymograph had been reached. The output of energy is enormous.

From *La Fatigue Intellectuelle*, by Binet and Henri, I take Figs. 27 and 28. Fig. 27 shows four ergograms taken by Mosso from Dr. Maggiora, professor of hygiene in the University of Turin. The weight used was 2 kilograms. What relation it bore to the weight of Prof. Maggiora is not stated. The first of these tracings was taken while Maggiora was in a state of rest and before holding an examination. This examination commenced at 2 p. m., lasted three and one-half hours, and was very trying; besides the labor of the examination, there was also the "emotion of feeling the responsibility of his own teaching in the presence of competent colleagues, who assisted as members of the examining commission and who were capable of judging him." The second tracing was made at 5:45 p. m.; the third at 7:30 p. m.,

and the fourth at 9 p. m. The last three indicate very slow recuperation. In Fig. 28 are shown three ergograms made by the left nand of Maggiora on the same occasion, the weight used being 500 grams. The first of these was taken at 9 a. m., the second at 5:30 p. m., and the third at 7 p. m. The two experiments, however, differ in a very important particular. The tracings shown in Fig. 27 are voluntary tracings, presumably made with the right hand, although that fact is not specifically stated in the only account of the matter at my disposal. The tracings of Fig. 28, however, were not made voluntarily, but instead the muscles were excited to action by electricity. The marked similarity in the curves indicates that the fatigue is not entirely central. Kraepelin and Hoch[1] have arrived at the conclusion that the height of the individual lifts in the ergogram depends on the state of the muscles, while the number of the lifts depends on the state of the central nervous system. Important as is this part of the subject, I can not occupy your time with it further, but must proceed to another phase of my work.

[1] Psychologische Arbeiten, i, 1896. Binet and Henri, loc. cit., p. 187.

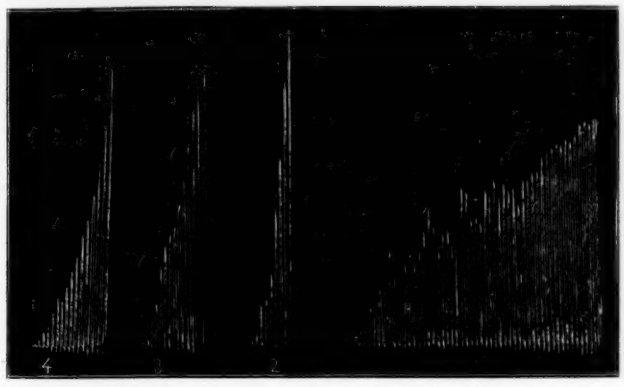

Fig. 27.—Ergograms of Maggiora—Voluntary.

Fig. 27 illustrates ergographic tracings taken by Mosso from Professor Maggiora, of Turin. Tracing No. 1 was made with the right hand while in a state of rest before conducting an examination. Tracing No. 2 was made 15 minutes after the conclusion of the examination; tracing No. 3, two hours after the examination, and tracing No. 4, three and one-half hours after the examination. The last three tracings indicate the intense fatigue produced by the work, and slow recuperation. The greater height to which the weight is lifted in this tracing indicates apparently less nervous control during the fatigued state.

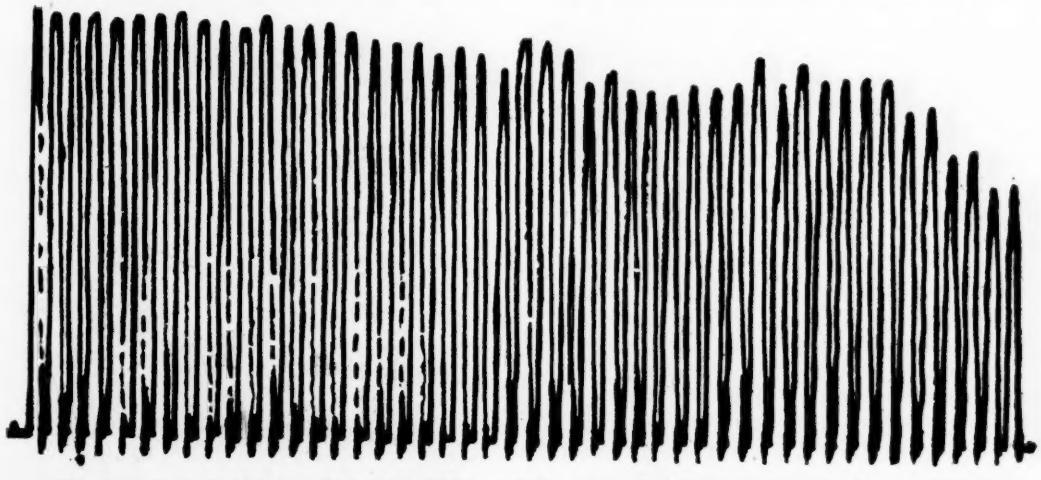

Fig. 24.—Best Record for Boys, for Height Lifted. Age 18. 9:55 a.m. 3.7 kg. 266 cm. 47 lifts.

Fig. 25.—Ergogram of a sprinter—18 years old. Runs distances up to 300 yards. Said he could not run 330 yards. 2:45 p.m. 4.8 kg. 114 cm. 34 lifts.

Fig. 28. Ergograms of Maggiora—Electric Stimulation.

Fig. 28 illustrates ergograms of Professor Maggiora made with the left hand upon the same occasion as shown in Fig. 27. In this experiment electrical stimulation was substituted for voluntary action.

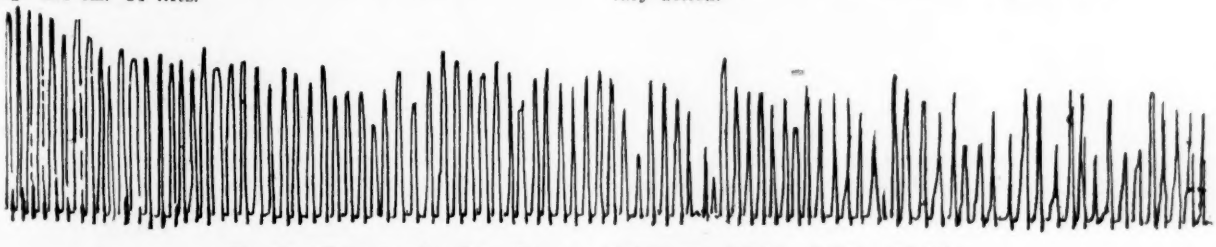

Fig. 26.—Kitty S. Age 14. Chorea. 2:00 p. m. 2.6 kg. 3 min. 94 lifts.

(To be continued.)

EXOPHTHALMIC GOITER.*

F. W. HIGGINS, M.D.
CORTLAND, N.Y.

This is one of those puzzling and tantalizing diseases which will baffle a full explanation. All disease is mysterious, but we are beginning to feel that the pathology if not the treatment of diphtheria, Bright's disease, or tuberculosis is somewhat satisfactory. Many diseases of the nervous system have a beautifully exact anatomical lesion. But exophthalmic goiter, one of the most striking entities of them all, is most elusive.

The symptoms are fairly definite and yet I believe that the disease often remains unrecognized. This is so for the reason that one or more of the main symptoms may be absent or slightly in evidence. The rapid pulse is the most constant and easily detected. A pulse above one hundred, when the patient is not excited or under exertion, should arouse suspicion of this disease. Still, this marked symptom is absent in a certain percentage of cases.

The enlarged thyroid, which gives its name to the disease, if looked for carefully by deep palpation, is present in probably 90 per cent. of all cases. It is not generally so large as in simple goiter, nor so hard. It more resembles a vascular fullness. Sometimes a patient will present herself complaining most of the large neck, but very often this member of the tripod of symptoms must be searched for. This is especially so since from 95 to 97 per cent. of the cases occur in women. One side is frequently decidedly larger than the other.

The exophthalmos is perhaps the most variable of the three cardinal symptoms, but may be the most striking. This was true in a case recently under my care. I present a photograph as she appeared in my office for treatment for the eyes. They had protruded to such a degree that the lids could not cover any portion of the cornea. As a result of exposure both had ulcerated. The extreme chemosis of the ocular conjunctivæ had pressed the lids still farther apart until they were immovable. At this point she had come under the care of a physician, who had recommended poulticing the eyes. The result was that the eye first affected resembled a prolapsus ani. The cornea had sloughed and its location was manifest only by a sulcus in the middle of the edematous conjunctiva over the shrunken, protruding ball. It may be mentioned that the worst eye was on the side opposite to the side of the thyroid most enlarged. This is contrary to the rule, but the exceptions seem to predominate.

The right eye had been painful and ulcerated only a few days, but was evidently going the way of the other. I enucleated the eye totally destroyed. The other was treated by the patient resting in bed, by the application of frequent hot boracic solutions, atropin, and multiple scarifications. It made a good recovery, although there had been a marked hypopyon, and it was about two weeks before the lids could cover the cornea.

This amount of exophthalmos is rare and extreme, but it is in many cases a very noticeable symptom. The sclera may be visible above the cornea. Stellwag's sign is the increased distance between the margins of the upper and lower lid. Graefe's sign is the lagging, jerking downward movement of the upper lid as it attempts to follow a downward rotation of the eyeball; either sign may be absent. Various learned explanations of these phenomena exist, which include the innervation of Müller's muscle. The fact, however, remains, that the mechanism of the signs or of the proptosis itself is not understood. The only imaginable factors are a relaxation of muscle tone, an overfilling of orbital veins, and an increase of orbital fat. My own opinion is that the first factor is the most important, since, in the case just detailed, an artificial eye could not be retained in the socket from the relaxation of the lower lid.

There are other evidences of weakness of muscle fibers. The sweating, diarrhea, weak, rapid heart action, throbbing arteries, and flaccid skin must depend upon a loss of tone in the involuntary muscles; while the trembling and general weakness is due to the same condition in the striped muscle.

It is certainly remarkable that the description of a person in terror should apply so exactly to the chronic condition found in this disease, said to be generally due to fright. The staring eyes, palpitating heart, trembling and weakness, not to mention the rarer symptoms of both, as relaxed bowels, sweating, abundant urination, and mental break-down are found in each. This has led to it being included among the nervous diseases. Because no organic central changes are found present it has been called a functional disease. Certain experimental lesions on the medulla have produced exophthalmos, and we all know that the vagus controls the rapidity of the heart's action. Other functional complications, as anesthesias and paralysis, are described by Gowers. All these considerations make out a strong case for placing it in the catalogue of nervous diseases. The prevailing treatment a few years ago by galvanization of the cervical sympathetic was due to this supposed pathology.

During the last few years there has been a trend in a different direction. While admitting that the manifestations of the disease were largely that of a neurosis, it was thought that some causation beyond the depressed nerve-centers must exist. The most natural cause, reasoning from analogy, would be some form of toxemia. Thompson's explanation of the disease as an intestinal autointoxication is a marked example following this etiology. So far as I know, this theory does not find general acceptance. I must admit, however, that I do not give phosphate of soda to my patients, following his recommendation.

*Read before the Third District Branch, New York State Medical Association, at Binghamton, N. Y., June 21, 1900.

The asserted fact that over half the cases of exophthalmic goiter have been greatly benefited or cured by removal of the thyroid has had a most marked influence on our ideas of its character. If this is true, as is asserted by most competent authority, it must be that one of two explanations obtains.

Possibly the operations by reflex on the adjacent sympathetic or other nerve-centers modifies the general symptoms. Those who still hold to the purely nervous pathology claim this is true and cite the fact that a section of the cervical sympathetic is often beneficial. The other possibility is that the secretions of the thyroid entering the blood are of great importance normally, and that an over-action or perverted action of the gland by poisoning is the cause of all the other symptoms. This has been the controverted point during the last ten years. Most writers, I believe, admit that removal of the thyroid may be expected to cure the disease. The theories constructed on this fact, however, are most varied, and some of them appear fantastical.

The simplest of all the etiologies given is that the thyroid secretion is a complex poison to the organic nerves, that the rapidly growing gland with its increased function overwhelms those centers, and that its removal removes the cause of the disease.

Further study rather tends to dissatisfy us with this simple explanation, and presents at least four factors that should be considered. These are the physiological experiments on the thyroid, the contrast between this disease and myxedema, the possibility of recovery from the disease under other forms of treatment, and the etiology. It is impossible in the limits of this paper to enter into a discussion of each of these. I will simply try to illustrate the statement that the pathology is still complex.

Blum[1] gives careful experiments to show that the function of the thyroid is not to furnish a poison but to supply the antitoxin; that from imperfect assimilation, albumoses are produced, which it is the constant function of the thyroid to destroy by combination with an organic iodin product as iodothyrin. This emphasizes the importance of the normal thyroid, but just why an increased function of the thyroid should cause disease is not made clear. We must supplement this physiological explanation with the supposition that the antitoxin itself has an effect on the nerve-centers or that some other substance is secreted by the gland which does have such an effect.

Myxedema is a disease supposed to be due to the absence of the thyroid or a suspension of its functions. The reasons for believing this are quite cogent. Entire removal of the gland brings on the disease. Feeding the gland mitigates its manifestations.

Now, the symptoms of this disease and exophthalmic goiter are almost opposite. One has dry skin; the other moist. The first tends to a drooping of the upper lid; the second to widening of the palpebral opening. The body temperature is lowered in myxedema; in Graves' disease it is frequently raised subjectively or even objectively. In one the pulse is too slow; in the other too rapid. So the contrast in a general way holds good. But it must be added that some symptoms are common to both. Weakness, mental hebetude, insanity, expressionless face, anemia, and lessened sexual desire are examples of this. Indeed, cases are on record where the two diseases existed in the same patient at the same time. This is impossible to understand unless the functions of the thyroid are complex, or unless exophthalmic goiter is more than overaction of the thyroid.

The most common cause of the disease being a sudden fright, is also a puzzle in its pathology. One can imagine the mammary secretion being turned to a poison for a day by emotion; but that a chronic disease should be due to a sudden mental influence is not so easy to comprehend. The fact that cases have recovered under many forms of treatment besides that directed to the thyroid further complicates the question. Removal of nasal abnormalities is said to have cured the disease. Return to a healthy condition of the alimentary tract has also been followed by a recovery from the tripod symptoms.

From all these considerations it must be that underneath the lesser truths of the influence of the cervical sympathetic and of the thyroid gland and of the terror there must be a deeper cause. I am not able to give this deeper cause and shall not attempt the task. Before this can be done we must know more of the complex physiology of the thyroid. We ought also to know what set of nerve-centers are involved to give all the gross physical manifestations of a man or an animal in the extreme of terror.

My own feeling in regard to the disease is that we must now, perhaps always, attack its secondary manifestations; that there is a fright center as well as a speech center or a vasomotor center, and that this may be congenitally weakened. Last week I heard of a young wife who always felt that she should die if a burglar came into the house, and did die because she supposed her husband was one as he carefully came at two in the morning. In such a predisposed person—a woman in nine cases out of ten—sudden emotion produces changes in the heart, digestion, action of the kidney, circulation of the thyroid, size of the pupil, character of the breast milk, trembling of the limbs, flushing of the face, and so through a long list. Suppose some one of these physical manifestations, such as a disturbance in the thyroid, assumes a permanent character from an inherent predisposition. Then a vicious circle would be established in which the other temporary symptoms tend to be constantly reproduced. I know this appears to be a return to the nervous pathology, in contrast to the prevailing explanation as a disease of the thyroid. If I have made myself understood, it will be seen that the thyroid is recognized still as a prime factor, but only as one in a chain. Our treatment is influenced by this idea only to the extent that we attempt to break the chain at its most vulnerable point. If we are prepared to do this by excision of the thyroid wholly or in part, well and good. If we detect some other weaker link, or one we feel more competent to solve, our treatment may be directed there with a fair hope of success.

[1] Virchow's Archiv, 1898.

Significance of Tardy Adenopathy in Scarlet Fever.—Early nephritis in scarlet fever, accompanying the fever and eruption, is usually slight and transient, but nephritis occurring later frequently assumes a serious form. It usually appears insidiously with a few clinical manifestations, but the *Semaine Méd.*, of June 20, quotes Stembo to the effect that an invariable pathognomonic sign in the incipient stages is the abrupt tumefaction of the glands below the maxilla or at the back of the neck, or both combined, appearing during convalescence, after cessation of the fever and of other symptoms. The temperature rises slightly, but albuminuria and other indications of the nephritis may not appear for one to four days.

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MEDICAL LITERATURE AND MEDICAL WRITING.

Virchow's recent advice to writers for medical periodicals, upon which we have already commented,[1] is attracting considerable attention in American and English journals. The points he makes in favor of brevity in non-essentials; in favor of comprehensive summaries of the previous literature bearing on the subject discussed; and in favor of a judicious limitation of the number of illustrations are all well taken. They have been urged before on various occasions, both by Virchow himself and others.

There are certain general rules for good medical writing that can not be urged too often. There is the title of the article, to begin with the beginning. The indefinite, meaningless title is still entirely too frequent, especially in American medical journals. Many a valuable observation, conscientiously recorded, is buried forever because the title does not clearly and explicitly indicate the scope of the article. What a bugbear to the index makers and cataloguers are such titles as the following, selected at random from the table of contents of recent journals: "Notes from Clinics"; "Two Obstetric Cases"; "Practical Surgical Notes"; "An Interesting Case"; "A Rare Case"—the last two continue to appear in spite of repeated protests—"A Reply"; "A Reply After Two Years," etc. Let the title state as briefly as possible the main subject of the article, so that "he who runs may read" and learn at a glance whether the article is likely to be of interest at the present moment. Medical libraries constitute the classified and indexed storehouses of available knowledge, and authors should, in the interests of the survival of their mental offspring, give it such distinctive appellation that it be not overlooked and neglected by the student. That the article is brief, laying perhaps no claim to originality, being merely a statement of a few facts of interest, is no reason why it should be sent into the world a nameless child. The sum total of our knowledge is made up to a large extent of the summary of more or less isolated observations scattered through numberless journals, but brought within the scope of reference by index catalogues and indexes in general.

A table of contents, indicating more fully the nature of an article, is certainly a valuable addition. It is an amplified title, and shows the order in which the various topics are taken up in the body of the article. It induces to system and clearness in presentation. Unfortunately, medical periodicals have not adopted this plan as extensively as it has been adopted in current biological literature. It is also regrettable that a uniform system of classification, such as that of Dewey, has not been generally adopted in our libraries, public, institutional, and private. In that case the number under which an article should be classed might be printed at the top of the table of contents.

Much annoyance and loss of time are caused by errors in the references to the literature cited in articles. Every reference should be verified carefully. Bibliographic references are inserted as part of the evidence adduced and weighed by the author. They are not ornamental and do not necessarily indicate great learning and patient study and search. Lists of references may be bought; and in a recent review there occurs the damaging statement: "The bibliography is the best that money can buy"—damaging because true. Indeed, is not the matter of bibliography somewhat overdone of late? "Many authors are mere antiquarians, gathering up the chaff with the wheat, and choking their readers with the dust of their own tedious research." In giving a reference, the name of the author, the name, year, volume, and page or pages of the journal should be cited always. In case a book is referred to, its title, the year of publication, and the page must at least be stated.

At the present time illustrations are in great demand. Good illustrations are exceedingly helpful, but the blurred smutches often seen are certainly not desirable. Reproductions of X-ray photographs are frequently unintelligible, and there is nothing to be gained by the indiscriminate use of illustrations.

Finally a word concerning the long article. The merits of a scientific contribution are not to be determined solely according to its extent. A careful, conscientious study of an important problem in medicine may require a great deal of writing for the full exposition of the results, and yet the article may be brief in the sense that no words have been wasted by unnecessary minuteness of detail and tiresome discussion. Articles of this character may be classical, and it is the function of the medical press to furnish the medium of publication for work of this sort. We have as yet but few, if any, publishers whose liberality prompts the publication of scientific medical monographs. Let not the popular taste for the brief and the pointed and the easily grasped stifle the adequate and thoughtful presentation of the results of scientific investigation. On the other hand, it is well not to forget that long articles are not necessarily scientific, strange as this may seem to some whose names appear quite often in medical prints. Quality, not quantity, counts here as well as in other spheres of action. The majority of articles submitted for publication could be cut down one-half, and not a thought be eliminated in so doing. The repetition of well-known facts, padding with abstracts from text-books, and words, words,

1 THE JOURNAL, July 21, p. 164.

words, too often constitute the papers that appear as "original" in medical journals. And if the editor presumes to use the blue pencil in the least, the majority of authors consider it an insult. If medical writers would but appreciate that the unnecessarily long article is just as unpopular with the reader as it is with the editor, there would be fewer written.

LITHOLAPAXY IN INDIA.

The August issue of the *Indian Medical Gazette* is a special one, devoted to the subject of East Indian experience with operations for stone in the bladder. This appears to be a common affection at all ages amongst some of the Indian populations, and the experience of Indian surgeons is therefore of value, the more so since their hospital opportunities are large. The papers published in this special number do not throw very much light on the etiology of the condition, the main point in all is the method of surgical cure. One thing stands out prominently in all the communications, namely, that Bigelow's operation of litholapaxy is the one that has become the operative mainstay of the British surgeons in India, and is the best and safest resource in all ordinary cases, regardless of age. One surgeon, Capt. H. Smith, I. M. S., analyzes nearly 8000 cases of operations for vesical calculi made in the Punjaub and in a few hospitals in the adjoining provinces since 1890. Of these 6918 were litholapaxies, with an average mortality of 3.81 per cent.; 980 perineal lithotomies, with 10.71 per cent. mortality; 29 suprapubic lithotomies with 41.37 per cent., and 27 of Keith's operation of perineal litholapaxy, with 7.4 per cent. death-rate.

Further, the figures given show the comparative harmlessness of the operation in children, as 1802 of the litholapaxies were done in subjects under 6 years of age with a mortality of only 2.55 per cent., and a total of 2615 under 12, with a total mortality of 45, or 1.72 per cent. Above this age the death-rate increased according to age, being 3.43 per cent. from 18 to 55 and 5.73 above the latter age. Keegan, who is claimed as the originator of the practice of litholapaxy in young children, would certainly seem to be vindicated by these figures. Indeed, they are better than his own statistics of 2.09 per cent. mortality in 239 boys averaging 6.4 years of age, as reported in the *Lancet,* July 28, 1894, to which he refers in reply to a criticism in the recent work of Dr. Lydston. In fact, Dr. Keegan has expressly disclaimed any pre-eminent dexterity or success in the operation, though his results as given above are creditable.

The history of litholapaxy in India, where hospitals have, in some cases, hundreds of operations for calculus annually, though dating back as it does less than twenty years, would seem to put the operation easily ahead of all others for the relief of the condition, and especially in the young, if there is distinction or preference as regards age. As Keegan says, however, and in this, others of the Indian surgeons agree with him, it is an operation that requires skill, and especially experience, as well as ample appliances for the best results. It may therefore be slower in winning the favor with European and American surgeons that it has with those of India, whose clinical opportunities as regards this operation seem to be so much greater.

Forbes Keith's operation of perineal litholapaxy has also its indications and advocates in this review of the subject in the *Indian Medical Gazette;* the Indian surgeons appear to desire to extend the use of the crushing methods and the statistics they give are not unfavorable. It is probable, however, that to some extent the popularity of these has, as our East Indian contemporary suggests, affected the statistics of the cutting operations, which are not there selected in a way that makes for high-class statistical results. Be this as it may, however, the figures given appear to fairly establish the pre-eminent utility, in that country at least, of Bigelow's operation and its modifications, without regard to age conditions originally deemed of importance.

DIPHTHERIA, LARYNGITIS AND LARYNGISMUS.

While it is true that membranous laryngitis may be due to other exciting causes than the diphtheria bacillus, in actual practice almost all cases have this specific bacterium. Laryngeal obstruction, with the complex of symptoms known as croup, may, however, be due to other causes, such as spasm of the glottis, the presence of new growths or of foreign bodies in the larynx. The differentiation is, obviously, of the greatest importance, as on it will depend the appropriate treatment to be instituted. Croup, it should be borne in mind, is but a symptomatic designation, and it may be due to any one of a number of causative influences. Symes,[1] in a recent communication, describes the features of croup as follows: laryngeal stridor, cough, with a barking, "croupy" sound, a nocturnal paroxysm, great restlessness, and recession of the chest; and he considers briefly the clinical characters of the three principal varieties of disease that are attended with these phenomena, namely, diphtheria, laryngitis, and laryngismus.

Membranous croup and diphtheria are to be looked on as essentially the same disease. The condition is characterized by its gradual onset, enlargement, induration, and tenderness of the cervical lymphatic glands, increased area of cardiac dulness, the presence of albumin in the urine, the detection of membrane in the pharynx, and the presence of diphtheria bacilli, the long duration, the slow recovery, and the transmissibility. A septicemic rash may be present, and the knee-jerks are occasionally absent.

Acute laryngitis may be attended with swelling and edema of the larynx and croupy symptoms. In addition, there will be hoarseness of voice, the respiration has a hissing character, the lymphatic glands are not enlarged, the onset is more rapid, albuminuria is not present,

1 Dublin Journal of Medical Science, July, 1900, p. 224.

and the attack does not occur especially at night. The knee-jerks are not altered, the heart is not dilated, and there is no history of infection.

Spasmodic laryngitis is differentiated from diphtheria by its abrupt onset, its occurrence at night, its recurrence, its appearance in more than one member of the same family, the rapidity of recovery, its association with enlarged tonsils or adenoids, its development in children between the ages of 3 and 15 years, and the relief afforded by vomiting.

Laryngismus, on the other hand, is a spasmodic neurosis of early infancy, occurring almost exclusively in rachitic children and unattended with cough. The spasm causes sudden arrest of breathing in expiration, followed by a crowing inspiration. The disorder is most common between the age of 6 months and 3 years. It is unattended with fever, there is no hoarseness, and the child appears to be well in the intervals. Recovery occurs, as a rule, although the spasm may terminate fatally. In addition to its rachitic origin, it may also be of congenital or reflex origin.

THE INFLUENCE OF ALCOHOL UPON SUSCEPTIBILITY TO INFECTION.

It is not long ago that alcohol enjoyed a wide range of therapeutic usefulness. It was given to reduce fever and it was taken to produce warmth; it was prescribed for sleeplessness as well as for the purpose of arousing the flagging mental activities; it was supposed to stimulate the appetite and to furnish food, and it was used accordingly; and in the treatment of infections and certain intoxications, acute as well as chronic, alcohol has long played a very prominent part. In not a few instances the treatment of infections with alcohol in its various forms has been carried to such an extent that "heroic" is the most popular term to describe the doses given.

But the rôle of alcohol as a panacea is being rapidly curtailed. The light of exact investigation has shown that the therapeutic value of alcohol rests on an insecure basis, and it is constantly being made clearer that after all alcohol is a sort of poison to be handled with the same care and circumspection as other agents capable of producing noxious and deadly effect upon the organism. In reality, practically nothing is known concerning the influence of alcohol on the susceptibility and the course of infections in man. Clinical observation can not solve such questions properly. The basis for final judgment must be found in experiments, but so far little has been done in this line. It has been shown by Abbott[1] and others that alcoholic animals are more susceptible to infections with various organisms than normal animals. And Laitinen,[2] after having studied the influence of alcohol upon infections with anthrax bacilli, tubercle bacilli, and diphtheria toxin in dogs, rabbits, guinea-pigs, fowls, and pigeons, reaches the same general results, and this with certainty and directness.

Under all circumstances alcohol causes a marked increase in susceptibility, no matter whether given before or after infection, no matter whether the doses were few and massive, or numerous and small, and no matter whether the infection was acute—anthrax—or chronic—tuberculosis—or more of the nature of an intoxication—diphtheria. The alcoholic animals either die while the controls remain alive, or in case both die, death is earlier in the alcoholic. Without going into details in connection with the experiments—and there is room for further work here—it may be said at this time that the facts brought out by the researches of Abbott, Laitinen, and others do not furnish the slightest support for the use of alcohol in the treatment of infectious diseases in man.

1 Journal of Experimental Medicine, 1896, i, 447.
2 Ztft. f. Hyg. u. Infektionskr., 1900, xxxiv, 206.

TRADE UNIONISM IN MEDICINE.

An association of physicians is being formed in Detroit on apparently regular trades-union principles, exclusion of all non-members from any professional recognition, "business agents" under the name of ward governors, and all the other essential outfitting of a regular trades union. THE JOURNAL is an advocate of organization of the medical profession on legitimate ethical lines, but we trust the report of the proposed action in Detroit is incorrect, at least in some of its details. It is not necessary to imitate the objectionable features of a laborers' or mechanics' organization, nor is it dignified or worthy of a learned profession. If our judgment is correct, and we have no reason to doubt it, the plan as proposed will hardly succeed and will not help the profession as a whole. There is ample opportunity for an organization of physicians that will protect their own interests without sacrificing their self-respect as members of a learned and honorable profession. The proposed plan does not do it, it seems to us, and there are still other features than those mentioned that may be open to objection.

UNGUARDED RHETORIC.

What we must regard as an unfortunate expression in Dr. Jacobi's address at the International Medical Congress[1] has caused some resentment, as will be seen in the correspondence published in this issue, as might perhaps have been anticipated. The speaker undoubtedly referred to certain extreme conditions, but it is unfortunate that he used the terms as applying to any special sections, only partially qualifying his remark by saying that the boundaries of most states include the most various degrees of culture and the contrary. It would have been better had he said all states, for no section of our country has a monopoly of culture or of its opposite. The highest culture and refinement are least obtrusively self-conscious, and of this kind the East has no exclusive supply, any more than has the South of "abject animalism," or the West of any peculiar qualities. Our correspondent may be unduly sensitive, but

1 THE JOURNAL, August 18, p. 427.

we ourselves can not but regret the semi-apologetic accent of some portions of the address in regard to our national standing in medicine and science. Foreigners are condescending enough at present, and we naturally prefer such an utterance as that of Osler, who saw in the future of America a scientific Mecca, rather than even an equivocal admission of real or fancied national defects, in such an address. Nevertheless, we do not feel so badly hurt as we might were the implications better based on facts in this special case.

DEATHS AND ACCRETIONS IN THE MEDICAL PROFESSION.

The State Board of Health of Illinois has just published a list of the physicians, licentiates of the Board, whose deaths have been reported since 1877. This gives a total of 2266 deaths, or an annual average of about 100. This is not a large number, considering the fact that there are between 8000 and 9000 licensed physicians in the state, and indeed it is small when account is taken of the large output of new physicians each year. Last spring Chicago institutions alone graduated 676, and Illinois is fairly surrounded on all its borders with medical schools. With the increasing prevalence of state examinations, the tendency will probably be more and more to stiffen the requirements, but it is still difficult to see how all the newly-fledged physicians are to be accommodated with a practice and a living. The chances are that more will be inclined to settle down in their native state or in that in which they have studied and where it might seem to them that any prejudice or allowance in the examinations would be in their favor. With all possible restrictions to entrance in the profession, however, the death-rate among physicians in Illinois is far from being adequate to make room for its share of the annual crop of graduates. Undoubtedly the figures are too low, if anything, and there must also be a large defection from the profession in other ways than death. The figures point clearly to one thing: We are overdoing medical education as regards numbers. This, however, has long been known. The workings of the new medical-practice laws, that are all the while becoming more rigid and general, will be watched with more interest hereafter, and the relative standing of the different colleges before the boards may possibly have a salutary effect in ultimately weeding out some of the poorer ones. At present the evil is in full blast and though the subject is a hackneyed one, it is well to utilize every available fact as a text for the utterance against the modern multiplication of medical colleges with their competition, consequent laxity as to standards, and indigestible output of semi-fitted or unfitted candidates for medical practice.

THE RELATION BETWEEN URIC-ACID EXCRETION AND EPILEPTIC SEIZURES.

The attack of epilepsy may be looked on as a manifestation of the activity of the motor cells of the cerebral cortex, induced by abnormal stimuli. In the absence of positive evidence, there may be reasonable discussion as to the nature of the latter. Sometimes the irritant is grossly mechanical, as a spicule of bone or a clot of blood or a new-growth—hyperplastic or neoplastic—or an inflammatory or traumatic lesion of the brain; at other times it may consist in a poison circulating in the blood. Convulsions due to the influences named are, however, commonly designated epileptiform, in contradistinction from seizures due to less tangible causes, and the latter alone are considered epileptic. The distinction is rather one of convenience than exactitude, and as time goes on, the first group may be expected to expand, while the second grows progressively more restricted. Uric acid is one of the substances that has been thought to be responsible for the occurrence of epileptic seizures, as it has also been held accountable for numerous other derangements of function. Without attributing the epileptic seizure directly to the action of uric acid, it has further been contended, on the basis of experimental observation, that the excretion of uric acid is invariably diminished before each paroxysm of "idiopathic" epilepsy—sometimes immediately before, and at other times at an interval of a day or two; while the excretion is believed to return to and even to rise above the normal, after the paroxysm. The variations in the excretion of uric acid are considered as corresponding to other chemical changes through which the real poison, carbaminic acid, is formed. For the purpose of testing the validity of this proposition, Putnam and Pfaff[1] made a study of 29 specimens of 24-hours' urine from two cases of epilepsy, in the one during a period of three months, with five seizures, and in the other during two periods, each of a month, and each with one attack. The results, however, failed to show that there was any relation between the occurrence of the epileptic attack and the amount of uric acid excreted.

RAPID GROWTH OF THE TUBERCLE BACILLUS.

The tubercle bacillus grows but slowly upon our usual culture-media, a circumstance that causes delay in diagnostic and other investigations. Not long ago, Hesse advanced the claim that by adding a certain nutritive substance, called *Naehrstoff Heyden,* to agar or glycerin-agar, instead of the usual peptone, a medium is presented upon which the bacillus of tuberculosis grows with unexpected rapidity, characteristic growth being evident in two or three days. Indeed, the souring of tuberculous sputum upon this medium was said to be followed by multiplication of the bacilli in six to seven hours, as determined by microscopic examination of the surface inoculated. Hesse, on this account, leans to the opinion that all bacilli thrown off with the sputum have the power of multiplication—a fact of interest and importance if generally corroborated. Ficker[2] and Römer[3] have tested the results reported by Hesse. Both agree with Hesse, that on the medium prepared according to his directions the tubercle bacillus shows greater proliferative energy than on any other artificial subtratum. The exact substance in the *Naehrstoff Heyden* that induces the rapid growth can not be stated as yet. As regards the rapid multiplication of bacilli in sputum placed upon Hesse's medium, Ficker and Römer reach a different conclusion from that of Hesse. In the first place, the impression preparations

1. American Journal of Medical Sciences, August, 1900, p. 149.
2. Centralbl. f. Bakt., Abtheil, i, 1900, xxvii, p. 500.
3. Ibid., p. 705.

from the surface of the cultures showed that in certain flocculi of the sputum, growth had taken place, whereas in others it was evident that no multiplication had commenced. In the second place, careful study of inoculations of tuberculous sputum upon the usual media showed evidences of increase in the number of the bacilli just about as early as on Hesse's medium. It was also learned that in their growth the bacilli seemed to confine themselves to flocculi of sputum; when the limits of the flocculi were reached, a standstill in the multiplication was noticeable. This observation led to the thought that the mucus in the sputum was the stimulating factor, and Römer found that bacilli inoculated on cultural surfaces with non-tuberculous mucous expectorate carefully washed in sterile water grew much faster than on control plates without mucus. The difficulty in obtaining sterile mucus placed heavy obstacles in the way of extensive investigations along these lines. Enough results have been obtained, however, to show that the tubercle bacillus uses to great advantage the materials present in the mucus surrounding it in the sputum. Mucus alone is not sufficient for growth—and this is perhaps fortunate—because there is no rapid increase in the number of bacilli in tuberculous sputum kept in a moist chamber.

INTERNAL HEMORRHAGIC PACHYMENINGITIS.

The nature of that peculiar form of inflammation of the dura mater, known as pachymeningitis interna hemorrhagica, has long been a subject of discussion and study. But the process or processes are so unique and so different from other inflammations that most questions in regard to this disease still remain unsettled. The description of the microscopic structure of the dura by Key and Retzius twenty-five years ago remains true now. The membrane is composed largely of collagenous fibers mixed with more or less elastic tissue which, according to Melnikow-Raswedenkow,[1] increases in amount with advancing years. According to the recent investigations of this author the external and internal surfaces of the dura are covered with elastic lamellæ or limiting membranes. Upon the internal surface of the inner of these layers we have the epithelial lining of the dura. There are capillary networks near both the limiting membranes. It will be recalled that the external layer is closely applied to the inner surface of the skull and plays the rôle of periosteum for the skull. Melnikow-Raswedenkow examined a number of examples of hemorrhagic pachymeningitis. It begins as an inflammation of the inner or epithelial layer; a superficial exudate forms, capillaries grow into the exudate from the network below the inner elastic layer, and a layer of vascular connective tissue develops. From this a scar may result, but the characteristic feature is the hemorrhagic extravasations from the new capillaries. This process may become chronic, and thick layers of vascular and hemorrhagic or pigmented connective tissue in various stages may form, the oldest parts being nearest the internal elastic layer. It is the advanced forms of this process that give us the clinical picture of internal hemorrhagic pachymeningitis, encountered perhaps oftenest in the insane. The principal point in this sketch of the histogenesis is that the inflammation is the first step, the hemorrhage being secondary and complicating. This corresponds to one of the two current views of the pathogenesis of pachymeningitis; the other view holds that the hemorrhage is the primary event. The earlier stages of pachymeningitis are observed especially in various infectious diseases and do not give rise to recognizable symptoms; undoubtedly the process frequently heals spontaneously; but under some conditions the inner elastic layer grows in thickness and thus the communication between the old capillaries on the outside and the new capillaries on the inside of the elastic layer is greatly hindered, and the organization of the exudate and the return flow are delayed; hence the liability to hemorrhages and to continued inflammation. Great stress is thus laid on the mechanical rôle of the inner elastic layer in addition to the primary toxic agent. The toxic agents give rise to the earliest changes, the inflammatory, which are situated on the surface of the dura; the disease is to be looked on as a complication of general diseases; the peculiar mechanical conditions under which the new-formed vessels engaged in the absorption of the exudate are placed favor circulatory disturbances and extravasations into the new tissue. This view of the genesis of pachymeningitis is ingenious and helpful because it brings into prominence certain etiologic factors as well as the structural peculiarities of the dura.

1 Ziegler's Beiträge, 1900, xxviii, 226.

Medical News.

THE UNIVERSITY OF ATHENS has founded a chair of hygiene and bacteriology, and appointed Dr. Savas, staff officer in the Greek army, to the place.

THE NUMBER of persons who graduated last year in the learned professions was 16,448, and of these 5597 were graduates in medicine, 3065 in law, and 1673 in theology.

THE PLAGUE IN GLASGOW.—The recent reports from Glasgow, up to September 5, show that an additional case of plague has been discovered, making a total of thirteen. Three doubtful cases are isolated and 103 are under suspicion and observation.

A CUBAN MEDICAL JOURNAL.—Dr. John Guitéras, formerly professor of pathology in the University of Pennsylvania, and who now holds a position in the teaching faculty of the University of Havana, has established a medical journal there, entitled *Revista de Medicina Tropical*.

FOOD OF THE POOR IN THE UNITED STATES.—As a result of the examination of the comparative nutritive quality of food obtained from nine states and one territory of the United States, Professor W. O. Atwater finds that the American people could get twice as nutritive food for about half the money they now pay. In his opinion three times as much food is wasted as is eaten.

SCHOOL HYGIENE IN GERMANY.—The Minister of Public Instruction for the German empire has ordered that all public schools should be dismissed with a maximum of four hours of consecutive instruction whenever the temperature is 25 C.—77 F.—in the shade at 10 a.m., and that no afternoon session shall be held. The school

hours must likewise be shortened even at a lower temperature, if the rooms are small or overcrowded. Children who have an unusually long, unshaded walk to school must be excused from the second session.

A GOOD FEE.—Dr. J. N. McCormack, Bowling Green, Ky., is to receive the very handsome fee of $10,000 for professional services rendered William Goebel, the murdered governor-elect of Kentucky. At the time the shooting took place, Dr. McCormack, an old friend of Goebel, happened to be in Frankfort, and the wounded man asked that he be called. It was important that the patient be kept alive until he could be sworn in as governor, and the doctor not only remained with him until this had been done, but until the governor had died. There is no objection made by the family to the fee charged, in fact the amount was suggested by a brother of the deceased, a devisee under the will. Dr. McCormack is well known to the profession, and especially on account of the lead he has taken in the successful fight against quackery in Kentucky. He is secretary of the Kentucky State Board of Health.

KOCH'S LATEST REPORT ON MALARIA.—Dr. Koch has concluded his malaria research in German New Guinea, after a six months' stay. His experience included the rainy season and the transition periods in which malarial affections are most prevalent. He claims that they confirm his previous announcements and anticipations that the only practicable and effective method of exterminating malaria is the radical cure of every case. He deems the extinction of the infecting mosquitoes impracticable, and observes that the protection afforded by netting is good as far as it goes, but that no substance applied to the skin to drive away the insects has proved of more than transient benefit, while some are directly injurious to the bearer. It is possible, he adds, that some means may yet be devised to artificially hasten the immunization, which naturally is not attained until after four or five years and many attacks of malarial infection, but at present the prospects in this line are slight. He considers his malaria mission accomplished, and now leaves for Herbertshöhe to study the subject of the spread of malaria in a "safety zone." His latest communication is published in the *Deutsche Med. Woch.* of August 23. No new cases occurred at Stephansort during May and June, and only four relapses, all of quartan fever, which he regards as the mildest but the most obstinate form of malaria.

ARKANSAS.

A SANATORIUM for the Knights of Pythias is to be established by the order at Hot Springs. Congress has donated five acres of land for a site, and a fund of $500,000 is to be raised for the purpose of erecting, equipping and endowing a suitable building.

CALIFORNIA.

DR. THOMAS E. CUMMANE, of Santa Paula, has located in Ventura.

MRS. PHOEBE HEARST has given $1000 toward the new free hospital at Berkeley.

THE COUNTY HOSPITAL at Riverside is now almost ready for occupancy. It is located on a triangular plot of ground eleven acres in extent with one side facing Magnolia avenue.

SAN JOSE had a death-rate of 12.04 per thousand for the year 1898-1899 and of 12.12 per thousand for the year 1899-1900. The birth-rate for the same years was 9.06 and 9.64 per thousand respectively.

AN EMERGENCY HOSPITAL is urgently needed in Golden Gate Park, San Francisco. This need has been emphasized by the recent death of a San Francisco teacher near the Cliff House, whose life might have been saved had efficient medical aid been at hand.

A HOSPITAL to provide for the needs of sick or injured students at the University of California has been established at Berkeley. The president of the university is honorary president of the association, Dr. F. H. Payne, president, and Dr. J. S. Eaton, secretary. The board of directors in addition contains four physicians and five laymen.

OAKLAND'S annual health report shows the lowest death-rate, with one exception, for eighteen years. During the year, 40 deaths from zymotic diseases occurred; 59 died in 1899 from this cause. The annual death-rate per thousand for July was 12.48. Seven died from pulmonary tuberculosis and 7 from apoplexy. Violence caused 9 deaths, including 3 suicides.

CONNECTICUT.

THE INVESTIGATION of the condition of affairs at the New Haven Hospital, which has been demanded by the New Haven Medical Society, is to be made. The committee appointed for the purpose consists of Gen. Samuel E. Merwin, president of the hospital, Judge Simeon E. Baldwin, Prof. Morris F. Tyler, Eli Whitney, Dr. W. H. Carmalt, Dr. W. G. Daggett and Joseph Porter.

DISTRICT OF COLUMBIA.

DR. J. F. KEMP, who has been for six months an interne at the Georgetown Hospital, has been appointed acting assistant-surgeon in the army.

DR. CHARLES C. MARBURY, of Washington, has been appointed police surgeon, vice Dr. J. Ramsay Nevitt, appointed coroner of the district.

THE CASUALTY HOSPITAL, Washington, during the month of July treated 97 emergency cases; 83 surgical operations were performed and 17 patients were placed in the wards. During the same month the Eastern Dispensary reports 279 applications for treatment and 6 surgical operations.

HAWAII.

TYPHOID FEVER is reported to be epidemic at the Kapiolani Home for Girls at Kalihi.

THE HONOLULU board of health, at its August meeting, was appalled to find 12,000 bills arising from the plague epidemic awaiting its action, with many outlying districts to hear from. Although about $20.000 was left in the fund, it seemed likely that it would be only a drop in the bucket toward payment of these bills.

THE MORTALITY among Hawaiians is excessive. The report for July shows that 114 died during that month, 80 males and 34 females; 53 were Hawaiians, 25 Japanese, and 12 Chinese; 28 were under 1 year of age and 15 over 60. The mortality for the month for the last six years is as follows: 1895, 51; 1896, 48; 1897, 59; 1898, 75; 1899, 93, and 1900, 114. The annual death-rate per thousand was 30.74. Consumption was the cause of death in 18 cases and typhoid fever in 17.

ILLINOIS.

DR. ROY WILLIAMS has opened an office for the practice of medicine in Rockford.

DR. MAX F. CLAUSIUS, of Barrington, has been appointed acting assistant-surgeon in the army.

DR. ETHAN P. ALLEN, who has practiced in Stillman Valley for twenty years, has moved to De Kalb.

DR. CHARLES E. CRAWFORD, of Rockford, has been re-elected supreme medical examiner of the Sons of St. George.

A NEW monthly medical journal, the *Southern Illinois Journal of Medicine and Surgery*, has appeared. This newest aspirant for professional favor is published at Metropolis.

CASS COUNTY commissioners have elected as physicians for the coming year, Dr. John W. Porter, Virginia; Dr. Howard B. Boone, Chandlerville; Dr. Joseph D. Lyons, Ashland, and others.

THE EVANSTON HOSPITAL endowment fund is rapidly increasing. The directors report that $25,000 has been subscribed already. It needs still $20,000 before the remodeling can be completed and the desired contagious-disease ward con-

structed. A training school for nurses is to be one of the improvements undertaken.

THE PURE FOOD LAW is not understood by the public at large. It is intended to protect the buyer against imposition. If he wants to buy oleomargarin for butter, chicory for coffee or dilute acid for vinegar he is at liberty so to do, but the law requires that such articles shall be labeled. The *Chicago Chronicle*, in a concise and timely editorial, commends the work of the Illinois Pure Food Commission and shows what it is endeavoring to accomplish.

Chicago.

DR. NICHOLAS SENN has returned from his summer vacation, most of which was spent in Texas and Colorado.

DR. THOMAS WARLOE has decided to remain in Trondligen, Norway, give up the practice of medicine and go into business.

THE TRINITY DIET KITCHEN for infants at 3213 Wallace street during the last two months has cared for 700 babies, with only one death.

DR. J. B. MURPHY has severed his connection with the College of Physicians and Surgeons—medical department University of Illinois—and has accepted the position of professor of surgery in the Chicago Medical College—medical department Northwestern University. At the same time he assumes the position of chief surgeon to Mercy and Wesley Hospitals.

INDIANA.

DR. SAMUEL L. KILMER, of South Bend, whose eye became infected by sputum from a diphtheric child, is seriously ill and is reported as likely to lose the affected eye.

TWO LOGANSPORT physicians, Dwight C. Powell and Harry C. Gemmill, Jr., recently appointed acting assistant-surgeons in the army, have started for China via San Francisco.

SOUTH BEND must care for its own diphtheria, says Dr. J. N. Hurty, secretary of the state board of health. He has informed the local authorities that they should be fully conversant with their duties and should be able to handle the situation. His duty is to go to places where officials do not understand how to attend to these matters.

IOWA.

A NEW PEST-HOUSE is to be provided for Des Moines, as the detention hospital is too near the heart of the city to satisfy the citizens or the city council.

DR. JAMES R. WEDEL, of Vincennes, was accidentally but dangerously wounded on August 13 by a pitchfork thrown from a straw-stack by a farm-hand.

TITUSVILLE is to have a hospital costing $14,500. The board of directors of the hospital association has made a contract for the erection of a pressed-brick building two and one-half stories high, 90x47 feet, to be completed and ready for occupancy in six months.

KANSAS.

SMALLPOX STATISTICS.

Dr. W. B. Swan, of the State Board of Health, reports that there are fifteen cases of smallpox at present in Kansas; eleven in Crawford and Cherokee counties, two in the southern portion of Sumner county and two in Topeka. Most of the cases from southern Kansas are among the miners in Crawford county. The eleven cases from Crawford and Cherokee have been reported within the past two weeks. Prompt measures will be taken to stamp out the disease so far as lies in the power of the board. The state law provides that the county commissioners of the several counties shall act as local boards of health for their respective counties. Each local board thus created shall elect a physician, preference being given to an adept in sanitary science, who shall be ex-officio a member of the local board, and the health officer of the same. The county commissioners of Crawford county have been urged to take up the matter of smallpox at once and adopt vigorous measures to stamp it out. The epidemic began last December. Most all, if not all, the county health officers were puzzled as to the origin and nature of the disease and very few cases were reported to the state board of health in that month. The record from the first of the present year is as follows: January, 29 cases, 1 death; February, 437 cases, 10 deaths; March, 456 cases, 5 deaths; April, 370 cases, 1 death; May, 116 cases, 8 deaths; June, 37 cases, 1 death; July, 5 cases and no death.

KENTUCKY.

DR. HENRY E. TULEY, Louisville, returned from his vacation, September 7.

DR. THORNTON PERKINS, of Elkton, a graduate of Bellevue Hospital Medical College, has been appointed acting assistant-surgeon in the army.

SUIT AGAINST the Louisville and Nashville Railroad has been entered by Dr. Dudley S. Reynolds, of Louisville. He claims $10,000 damages for permanent injuries received at Glasgow junction, by the falling of a piece of coal.

MAINE.

TWO BIDDEFORD PHYSICIANS, Dr. John S. Fogg, who has recently resigned after two years' service in the army, and Dr. F. S. Warren, have gone to Europe for a short trip.

MARYLAND.

DR. ALVIN H. PRICE, of Baltimore county, had a second stroke of paralysis on August 27.

AN EFFORT is being made to build a hospital at Annapolis. Numerous accidents occur there, and large numbers of strangers go there for business or pleasure. Dr. William S. Welch is in charge of the project.

Baltimore.

DR. JAMES BOSLEY, health commissioner, has been spending his vacation at Rehoboth Beach, New Jersey.

A NEGRO suffering with confluent smallpox was found in a local hospital August 29 and removed by order of the health department to the quarantine hospital. He stated that he had left Elkins, Va., nine days before. The crew of the vessel on which he came were at once vaccinated, but the passengers had disappeared.

PREPARATIONS for the coming session are being made at the Baltimore Medical College. The pit of the amphitheater has been enlarged, a new sexagonal tile floor has been laid, new operating tables and new basins have been provided. The operating-rooms have been renovated and a room has been provided for use as a surgical dressing closet.

FOR THE WEEK ending August 26 there were seven deaths attributed to sunstroke, and 76 of children under 5 years of age. Among the deaths were: Cholera infantum, 39; consumption, 24; typhoid fever, 8; consumption, 24; typhoid fever, 8; pneumonia, 7; and drowning, 5. The death-rate for whites was 17.30; for colored, 30 per thousand.

AUGUST, 1900, goes down as the hottest month on record here. The daily average was 89.30 F. There were more than 30 heat prostrations, and many more deaths indirectly due to the heat. For 17 days the thermometer reached 90 or over, and for the six days, August 7 to 12, the average was 99.3. The excessive humidity, the unusual dryness and the absence of winds have made it a season never to be forgotten by Baltimoreans.

THE HEALTH COMMISSIONER is not satisfied with the reports of births sent in to his department by physicians, parents and midwives. It is so incomplete as to be of little value. The matter is of such pressing importance, especially in its legal relations, that he proposes this fall to have an ordinance introduced into the city council prescribing a penalty for failure to report births. At present the reports show a greater number of deaths than births.

MASSACHUSETTS.

DR. A. C. DOTEN, of Worcester, has been appointed ambulance surgeon to succeed Dr. Francis Shaw, resigned.

DR. ARTHUR FOURNIER has removed from Three Rivers to Gardner, and has taken the office and practice of Dr. J. N. Roy.

CHARLTON celebrated on August 19, the 81st birthday anniversary of Dr. William T. G. Morton, the discoverer of ether.

DR. C. A. STURTEVANT, West Somerville, has been appointed acting-assistant-surgeon in the army and is already on his way to San Francisco.

DR. LUKE B. PECK, Brookline, has been appointed acting assistant-surgeon in the army and assigned to duty with the United States forces in the Orient.

UNION HOSPITAL at Lynn has secured its charter. The incorporators and first board of directors are: Dr. Frank L. Judkins, president; Dr. Charles E. Jenkins, treasurer, and the remainder, physicians from recognized schools of medicine. The hospital will have an immediate capacity of 20 to 30 beds.

MICHIGAN.

THE MATRON of the Jackson City Hospital, Mrs. Flora A. Stickle, who has held that position for eleven years, has resigned, and Miss Minnie West, of Grace Hospital, Detroit, has been appointed her successor.

DR. JOHN L. BURKART, late city physician of Grand Rapids, and assistant-surgeon of the 32d Michigan infantry, U. S. V. during the Spanish-American war, has been appointed acting assistant-surgeon in the army, and has been ordered to China.

THE HEALTH OFFICER of Kalamazoo reports that the health of the city is menaced by the unclean vaults, many of which have not been cleaned for more than ten years; by the drive-wells, many of which are close to these unclean vaults, and by the poverty of provision for the health department. He recommends that the city fit up a laboratory at an initial cost of about $500, and that it also erect a garbage crematory.

A FREE HOSPITAL with a well-equipped laboratory is urgently needed for the care of the sick poor of Detroit. Dr. W. F. Metcalf claims that at present the poor of the city are not taken care of in the best way, speaking from a medical standpoint. Their cases are not studied and tabulated as they should be to secure the best results to the patients themselves and to the progress of scientific medicine.

MINNESOTA.

DR. AND MRS. T. W. VILLIERS APPLEBY have returned to St. Paul from an extended tour in Europe.

DR. REYNALDO J. FITZGERALD, of Minneapolis, who served as surgeon of the 13th Minnesota Infantry, U. S. V., in the Philippine campaign, is seriously ill with appendicitis.

THE POSTMASTER-GENERAL has confirmed the appointment of Dr. Walter R. Ramsey as official physician to the post-office department in St. Paul, to take effect September 1.

THE STATE BOARD OF DEFECTIVES has decided upon plans for the cottage to be built at the state farm for the use of epileptic boys. The building will cost about $14,000, and will accommodate thirty-five patients.

SMALLPOX, during the present epidemic in Minnesota, has occurred in 114 different localities in 48 counties and now exists in 32 localities in 16 counties. Up to July 1, 1900, there had been 1164 cases, with 28 deaths.

THE LUMBERMAN'S HOSPITAL, Brainerd, has been sold by Dr. James L. Camp to the Benedictine Sisters, of Duluth, for $9000. The transfer includes twenty acres of land and the hospital, which will be remodeled by the new owners.

THE STATE BOARD OF HEALTH has sent a circular to presidents of school boards and school superintendents and principals throughout the state urging that especial precautions be taken to prevent infectious diseases at the opening of the school year. To this end it recommends that a salaried inspector be selected by each school board, who should make a daily inspection of schools and pupils, and take all necessary steps to prevent the spread of disease.

MISSOURI.

ST. LOUIS has $258,000 in hand and will proceed at once with the erection of a city hospital to accommodate about 300 patients. The bill passed by the city council August 7 was signed by the mayor August 15 and became a law August 25.

NEBRASKA.

DR. JOHN M. NEELY, of Elmwood, has been appointed local surgeon for the Missouri Pacific railroad.

DR. FREDERICK J. WEARNE, of Omaha, county physician of Douglas County, has been given opportunity by the county commissioners to resign so that his place may be filled by a new man. No charges are made against Dr. Wearne, but the commissioners desire "to pass the honors around." It is claimed that this is outside of politics, but it "hath an aged and fish-like smell."

NEW JERSEY.

AN EPIDEMIC of typhoid fever threatens the town of Trevorton, owing to polluted water and defective drainage. Two persons have died and several are now ill with the disease.

THE CAMDEN COMMISSION of Public Instruction has decided that persons wishing positions as teachers in the public schools must be healthy and applicants must show certificates from reputable physicians as proof that they are free from tuberculosis, before receiving appointments.

NEW YORK.

DR. GEORGE B. BROAD, of Syracuse, is dangerously ill, as a result of infection.

RESOLUTIONS of respect regarding the late Dr. John F. Burns, of Long Island City, were passed by the Long Island City Medical Society August 19.

PARKS HOSPITAL, Glens Falls, has now an attending staff, consisting of Drs. R. Jerome Eddy, Howard S. Paine, William J. Hunt, David J. Fitzgerald. Fred G. Fielding, Thomas I. Henning, Charles S. McLaughlin, Claude A. Horton and others.

PROMOTIONS are in order at the State Hospital, Binghamton. Dr. W. A. White becomes first assistant physician, and Drs. H. Wardner Eggleston, Cecil McCoy and Edward Gillespie are each advanced a step, while Dr. Irving L. Walker, Waverly, recently graduated from the College of Physicians and Surgeons, New York, has been appointed medical interne.

THE LAY PRESS chronicles the wonder of medical men over a patient in Copenhagen who has been operated on fifty times and has had 2918½ pounds of fluid taken from her body. This reminds one of the epitaph on Dame Mary Page in Bunhill Fields burying-ground, who "in 66 months was tapped 67 times, and had taken from her 496 gallons of water without ever repining at her case or ever fearing the operation."

New York City.

DR. HENRY KOPLIK has returned from his vacation trip to Europe.

FAST RIDING on automobiles is not allowed even physicians on emergency calls. Dr. Wallace C. Clark, 113 West 34th street, was fined $3 and costs for this offense.

OHIO.

DR. AGNES GARDNER, of Toledo, has been appointed assistant physician at the Northwestern Ohio Hospital for the Insane in that city.

OREGON.

TWELVE out of sixteen physicians who were examined by the Oregon State Board of Medical Examiners were granted licenses to practice. The board held its annual meeting and election of officers, which latter resolved itself into a re-election of officers.

PENNSYLVANIA.

DR. WILLIAM B. ULRICH, of Chester, has resigned his position as chief surgeon of the Pennsylvania Military College. He recently celebrated his golden anniversary as a practitioner of medicine.

Philadelphia.

DR. ALBERT WOLDERT has gone to the Pocono Mountains for a short vacation.

THE WILL of Dr. John H. W. Chestnut, recently deceased, bequeaths the sum of $3000 to the Presbyterian Home for Widows and Single Women.

THE NEW MORGUE has been completed and will be turned over to the city within the next few days. Arrangements have been

made at this building so that the funerals may be as private as possible.

THROUGH THE BEQUEST of Edward T. Parker, the erection of a hospital has begun, to be known as the Parker Infirmary, which will be an addition to the Home for the Aged and Infirmed Colored Persons. It is to be three stories in height, will be finished in oak and will contain all the modern hospital appliances. The cost of the building will be about $13,000.

DR. D. BRADEN KYLE, who has just recently returned from abroad, was tendered a complimentary dinner at the University Club on the evening of August 29 by numerous friends. Those present were Drs. A. B. Kirkpatrick, William H. King, Justus Sinexon, C. C. Royce, Carle Lee Felt, Thomas W. Tait, T. D. Taggart, William Corson, E. L. Meyers, Leon Van Horn, and George Doyle.

MR. J. LEWIS GOOD, Chief of the Bureau of Health, announces that the city has never had a cleaner bill of health, so far as contagious diseases are concerned. For several successive days there were no admissions to the municipal hospital. There are, as a rule, between 200 and 300 patients, but at this time there are only 131. He considers this state of affairs as due in part to the energy of the health inspectors.

THE NUMBER of deaths for the week ending September 1 was 413, an increase of 41 over last week and an increase of 77 over the corresponding period of last year. The principal causes of death were: Apoplexy, 11; nephritis, 26; cancer, 17; cholera infantum, 42; tuberculosis, 49; diabetes, 5; heart disease, 34; pneumonia, 19; marasmus, 24; septicemia, 3; suicide, 2. Contagious diseases were reported as follows: Diphtheria, 61 cases, 13 deaths; scarlet fever, 20 cases, 3 deaths; typhoid fever, 60 cases, 8 deaths.

SOUTH CAROLINA.

CISTERNS, tanks and water receptacles must now be placed above ground by a decree of the city council of Charleston. It is contended that the soil is contaminated and that the water in underground cisterns is easily pollutable. The vote of the council was almost unanimous.

TENNESSEE.

DR. EDWIN WILLIAMS was appointed by the Memphis city council, at a recent meeting of that body, to the position of chief sanitary officer of the Memphis board of health, vice Dr. J. L. Andrews, resigned.

SEVERAL CASES of smallpox have been sent into Memphis recently from Mississippi. The Memphis board of health sent its secretary, Dr. Haase, to Jackson, Miss., to confer with the state authorities with a view to preventing this practice, but no relief could be offered other than general vaccination.

TUBERCULOUS CATTLE have been shipped by a Memphis dairyman into Louisiana, and the health authorities of the latter state have been notified accordingly. Thirty-six cows were quarantined on the farm of the dairyman as tuberculous suspects, autopsies made on five of this herd showing tuberculous lungs. The milk from these cows was found also to be literally alive with tubercle bacilli, and injections of tuberculin gave the customary reaction. The cattle were condemned by the city and county boards of health, and were shipped by the dairyman during the night to New Orleans in order to prevent the loss of his herd.

VERMONT.

THE RESIGNATION of Dr. A. P. Grinnell, of Burlington, from the chair of practice of medicine in the medical department of the University of Vermont, after twenty-five years of faithful service, was accepted, after he had declined to consider the emeritus professorship.

WISCONSIN.

"DR." O. L. ELLIS, of Clark County, the proud possessor of a diploma from the "Independent Medical College," of Chicago, has been fined $25 and costs at Tomah for practicing medicine without a license, and in default of payment now languishes in jail.

THE COMMITTEE on county hospital for Milwaukee has recommended the erection of a new building to cost $60,000, the remodeling of the old building to bring it up to the requirements of modern medicine, and that an isolation cottage be constructed.

CANADA.

THE WESTERN MEDICAL COLLEGE at London has been obliged to provide new buildings, owing to the increase in the number of its students.

A HOSPITAL is expected to be built in White Horse, Yukon, and in operation before cold weather sets in. Of the $2500 required to build and equip the hospital, about $800 was subscribed on the first appeal and the rest is in sight.

CANADIAN MEDICAL ASSOCIATION.

The profession throughout Canada has just received the provisional programs of the coming meeting of this association in the city of Ottawa on the 12th inst. Together with these has also been sent each member of the association a neat brochure containing the constitution, by-laws and ethics of the Canadian Medical Association, with a supplementary history of the respective officers of the association since its inception in the first year of the confederation, in 1867. A perusal of the program shows that many eminent men in the profession in Canada and the United States are to be present and take part in the proceedings, among others being Professor Shattuck, of Harvard, who is to deliver the address in medicine; Nicholas Senn and Webster, of Chicago; Gerster and Allan McLane Hamilton, of New York; Gairdner, of Montreal, and McPhedran, of Toronto. The address in surgery will be delivered at 8:30 p.m. the first day by Mr. Edmund Owen, the distinguished surgeon of London, England. On the evening of the second day the distinguished visitors and the members of the profession throughout the Dominion will be banqueted at the Russell House by the profession of the city of Ottawa. Dr. R. W. Powell, the president, and Dr. W. H. Klock, the local secretary, have all the arrangements well in hand and it is expected that the 1900 meeting will eclipse all previous gatherings. The premier, Sir Wilfred Laurier, will deliver an address of welcome on behalf of the Dominion, and Sir Charles Tupper, the leader of the opposition in the House of Commons, is also expected to be present and deliver an address. During the first three years of the association's existence Sir Charles was its executive head. Intimation has already been received by the local committee that every province of the Dominion will be fully represented, and Toronto and Western Ontario promise to send down a large delegation.

CONCERNING TORONTO'S WATER-SUPPLY.

During the hot wave the taste of the city water became very unpalatable and numerous were the complaints from the citizens of the quality of the water-supply and the temperature thereof, which had reached to 66 degrees. Consequently the medical health officer requested Professor Shuttleworth to make an analysis of the city drinking water. It is certainly gratifying to learn from this report that there need be no apprehension of an outbreak of typhoid, as Professor Shuttleworth reports that the quality of the water is first-class, and from a bacteriological standpoint is excellent. During the month of July the average number of colonies per cubic centimeter was 128, which compares favorably with that of previous years.

WILL THE PLAGUE REACH CANADA?

Since the report of the outbreak of the plague in Glasgow, this is a question which is uppermost in the minds of many Canadians. The secretary of the Ontario board of health has been interviewed in the matter and has given his opinion on the subject. Whilst Dr. Bryce is of the opinion that the disease may possibly invade some of the coast cities of the United States, the danger to the Canadian Atlantic ports is not so great, as being essentially a wharf disease, it spreads with fearful rapidity in the closely-populated dock districts of great cities. Toronto, without slums and with plenty of open spaces, would not afford a good foothold for the plague, but Montreal, with its closely-built districts, is not so favorably situated, and if the disease should once pass the quarantine station and

reach Montreal it might be serious. He considers, however, that Canada's greatest danger lies in the Chinese quarters in the British Columbia cities, where they have four thousand Chinese within a few blocks.

SICK AND WOUNDED IN WAR.

Surgeon-Major William Nattress, of Toronto, has just published in pamphlet form a lecture delivered by him last March before the Canadian Military Institute of this city. It appears at an opportune time, when the country has such vital interests at stake in the South African campaign. In the introductory remarks, Dr. Nattress deals with the sentiment of the fifteenth and the early part of the sixteenth centuries, and then follows a review of the facilities which an army in the field has at the present day for the removal of the sick and wounded. He referred to the practical, though perhaps novel, method by which the military surgeon would utilize the traffic of a great city like Toronto in case an emergency should arise for so doing. Whilst our military surgeons sometimes deplore the absence of ambulance wagons in the service, he views this with less alarm when he sees the numerous and countless milk-wagons and vans.

LONDON LETTER.

COMMISSION OF INQUIRY INTO THE SOUTH AFRICAN HOSPITALS.

The government has appointed a commission of five members: Judge Power, Dr. Church, president of the Royal College of Physicians; Professor Cunningham, of Dublin; Sir D. Richmond, and Mr. Frederick Harrison, to inquire into the arrangements for the care and treatment of the sick and wounded during the South African campaign. At first Mr. Balfour proposed to have only the first three members, but the cry was raised that the medical profession, which it was felt was incriminated by the charges of Mr. Burdett Coutts, should not have a preponderating voice on the commission. The evidence taken in England has disclosed the deadly influence of red tape and the effete prejudices which dominate that stronghold of British conservatism, the War Office. I venture to prophesy that it is here the weak point will be found. The medical staff of the army has done its work manfully and in the face of difficulties and dangers, but it is subject to an obsolete system which discipline absolutely prevents it from criticizing. General Sir H. Brackenbury, director-general of ordnance, said in his evidence that the reserve of hospital equipment at the outbreak of the war was inadequate. Just before the outbreak there was a reserve of only one base hospital of 520 beds, and two stationary hospitals of 110 beds each. The under-secretary for war said that the army medical department had no executive authority, but whatever was required in the field had to be granted by one of four high military officers of the war office: adjutant-general, quartermaster-general, inspector-general of fortifications or director-general of ordnance, and while, speaking generally, all its applications were granted, they were usually referred to the army board! This is a beautiful specimen of the spirit in which the war office treats the medical department of the army. Another defect of the same kind, pointed out by Mr. Watson Cheyne, is that the army medical department is not provided with its own independent transport. Application must be made for wagons and animals in all cases when any movement is to take place, and the result is that frequently such transport is not available, or if available can only be supplied to a limited extent. To be thoroughly efficient in the field the army medical department should have their own transport. They have been urging this on military authorities for some years. Indeed, a great deal of difficulty at Bloemenfontein would have been avoided if the department had marched with its own transport from the Modder River. The field hospital which did the best work in the field was the New South Wales ambulance, which had its own equipment. The fact is, the whole system of the military clique at the war office is and has been to treat the medical department as an inferior caste. The evidence of Mr. Rudyard Kipling on this serious subject was rather amusing. He went to a hospital at Cape Town and asked the physicians if they wanted anything. The reply was: "No, we have everything." He then interrogated the nurses, telling them that he could get anything they required out of the "Absent Minded Beggar Fund." One replied "We want pajamas very badly, but don't bring them to the store-issue department, or they will never come out. Bring them to the back door." In this manner he smuggled 98 pajamas into the hospital. The same thing occurred in two other hospitals. The commission has now sailed for South Africa, where they will continue their inquiry.

SCANDAL AT THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTIC.

A serious scandal has arisen in connection with the management of the greatest hospital in the world for nervous diseases, The National Hospital for the Paralyzed and Epileptic. For ten years grave differences have existed between the staff and the board of management, which has always refused the very moderate request of the staff for two seats on the board. In all except two of the metropolitan hospitals, having 100 beds or more, the staff is represented on the board. The staff alleges that various details in the hospital management are unsatisfactory; the diet is insufficient and the nursing staff deficient in numbers. The board appointed a sub-committee to inquire into these charges, and it reported that there was no defect in the hospital management of any importance. It has absolutely refused the request for representation by the staff on the grounds that the conduct of a member of the latter might be questioned and that it would not, therefore, be proper for him to sit in judgment on himself. Matters have now reached an acute stage. The staff declares that further representations to the board are useless and has appealed to the public through the press, demanding an independent inquiry into the hospital management.

TUBERCLE BACILLI IN RAILWAY CARRIAGES.

At the Public Health Congress in Aberdeen, Professor Hamilton read a very remarkable paper on the dangers of spreading disease by vehicles of transport. He remarked that although this country had always been in the van of scientific progress, it had not awakened to the danger of disseminating contagion by dust impurities. It was impossible to say to what extent the spread of influenza, diphtheria and tuberculosis was due to insanitary vehicles. The so-called cleaning of railway carriages only meant the stirring up of disease germs. A number of experiments made with the dust taken from the floors of twelve railway carriages showed that two, which were both smoking carriages, contained tubercle bacilli. To prevent the broadcast dissemination of disease the flooring of railway carriages should be removable, the cushions detachable, and the carriages so constructed that they could be periodically cleaned and disinfected.

MOSQUITOES A CAUSE OF ELEPHANTIASIS.

The second malarial expedition of the Liverpool School of Tropical Medicine has telegraphed from Bonny, in Nigeria, an important discovery, viz., that the filaria which causes elephantiasis, like the malarial organism, is found in the proboscis of the mosquito. The same discovery appears to have been made in England by Dr. Low, of the London School for Tropical Medicine, in mosquitoes brought from Australia.

INOCULATION AGAINST CHOLERA AND TYPHOID FEVER.

A parliamentary paper, recently issued, contains some interesting facts on this question. Anticholeraic inoculations were practiced by Haffkine in Bengal in 1896. According to his statistics, among 654 uninoculated cases there were 71 deaths—10.8 per cent.—whereas in 402 inoculated there were only 12—3 per cent. In the British army in India over 2000 men have been submitted to the antityphoid inoculations devised by Professor Wright, of Netley. Of these only a few—5 or 6—contracted typhoid fever subsequently. Typhoid fever is a matter of serious concern to the government of India. The admissions of British soldiers to hospital have risen from 18.5 per 1000 in 1890 to 32.4 in 1897, and the death-rate has increased from 4.9 to 9. The government has come to the conclusion that antityphoid inoculations have been shown to provide an immunity equal to or greater than that obtained by an attack of the disease, and that the operation is not attended with risk. It therefore recommends a more extended trial, which is now being carried out.

Marine Hospital Notes.

The commissioned medical corps of the Marine-Hospital service has been considerably added to during the past two years and now consists of 107 medical officers—1 supervising surgeon-general, 29 surgeons, 21 passed assistant-surgeons, and 56 assistant-surgeons.

A great many inquiries are being received in the office of the Surgeon-General from physicians desiring to take the examination for admission to the medical corps. Twelve completed applications are on file, and the medical profession will be duly advised through the columns of THE JOURNAL when the date and place of meeting of the next examining board are determined.

ACCESSO PERNICIOSO BERIBERI IN RIO JANEIRO, BRAZIL.

An interesting report has been received by the Surgeon-General of the Marine-Hospital Service from Acting Assistant-Surgeon W. Havelburg, on duty at the port of Rio Janeiro, Brazil. The report is dated July 16, 1900, and gives a general summary of the mortality in and about the city of Rio Janeiro for the six months ended June 30, 1900. He speaks of the disease "accesso pernicioso," which term is used so frequently in the reports from Spanish-American countries, and states that it is a disease of uncertain classification, which may embrace yellow fever, malaria, sunstroke and others of which there is no diagnosis, the term being used in spite of all criticism by physicians. He states that beriberi was formerly not an important factor in the death-rate of Rio Janeiro, but that during the six months for which report is made there occurred in that city 75 deaths from this disease.

NATIONAL QUARANTINE IN HAWAIIAN ISLANDS.

The quarantine service in the Hawaiian Islands is now under the control of the Marine Hospital service. The island and buildings formerly used as a quarantine station at the port of Honolulu have been turned over to the Marine-Hospital service and are being repaired and remodeled in accordance with modern ideas. Honolulu will ultimately have a complete and extensive quarantine plant. Inspection stations have been established at the parts of Hilo, Kahului and Kihei. The commissioned officers of the Marine-Hospital Service in Hawaii are Surgeon D. A. Carmichael and Assistant-Surgeons J. W. Kerr and John W. Amesse. Congress has appropriated $75,000 for the quarantine service during the present fiscal year.

PRECAUTIONS AGAINST YELLOW FEVER.

On account of the appearance of a few cases of yellow fever at Bocas del Toro, Colombia, one of the fruit ports of Central America, the city of Mobile has declined to receive passengers from any of the Central American fruit ports. The city of New Orleans requires detention of fruit vessels bringing passengers from such ports. This has led to a cessation of all passenger travel by water from the fruit ports of Central America to the southern cities of the United States, and has thereby lessened, in large measure, the danger of introduction of yellow fever to such cities.

STATUS OF BUBONIC PLAGUE AT RIO JANEIRO.

A report received from Acting Assistant-Surgeon W. Havelburg, U. S. Marine-Hospital Service, stationed at Rio Janeiro, Brazil, dated July 24, 1900, states that from July 16 to July 24, inclusive, a period of nine days, there occurred in that city forty-one cases of bubonic plague, with nineteen deaths.

HAFFKINE'S AND YERSIN'S SERA.

The Surgeon-General of the Marine-Hospital Service has received from Surgeon Rosenau a copy of a paper by Dr. A. Calmette, read at the International Congress of Hygiene and Demography, this month, entitled "Prophylaxis of Plague by Preventive Inoculations." In this article the author goes into detail as to the difference between Haffkine's prophylactic and Yersin's antipest serum, dwelling especially on the fact that the Haffkine prophylactic, while giving a larger period of immunity, is not to be used after the patient has been exposed to plague, or in any case in which it is probable that infection has taken place. On the other hand, after the disease has appeared, Yersin's antipest serum is the only efficacious remedy that may be employed, and it may also be used as a preventive, but does not confer so long a period of immunity as the Haffkine prophylactic. However, on account of its safety in all cases, it is recommended especially for use on boats, in lazarettos, hospitals and posts of observation.

MARINE-HOSPITAL SERVICE IN ALASKA.

The Marine-Hospital Service has just established a hospital for the relief of seamen at Dutch Harbor, Alaska, on Unalaska Island, with Assistant-Surgeon Dunlop Moore in charge. Dr. Moore has also been detailed, under executive order, to establish a national quarantine there, and has Assistant-Surgeon Carroll Fox as his assistant. Under the same executive order, Assistant-Surgeon B. H. Earle has been made national quarantine officer for Cape Nome, Alaska, with Assistant-Surgeon Bolivar J. Lloyd as his assistant. The latest report from Cape Nome, Alaska, is contained in the following telegram:

NOME, ALASKA. Aug. 6, 1900, via Port Townsend, 18th.
Six cases smallpox here in isolation. All convalescent. Systematic inspection last week found 12 cases measles, 18 pneumonia, no typhoid, no smallpox.

QUARANTINE STATION AT HAVANA, CUBA.

The former Spanish quarantine station near the village of Mariel, Cuba, twenty-one miles from Havana, has been transferred by the military authorities to the jurisdiction of the Marine-Hospital Service, and extensive repairs and alterations have been made, with a view to perfecting the efficiency of the station. It is situated on a small, land-locked harbor, capable of admitting deep-draft vessels. There is salt water on two sides of the reservation, while at the rear it is separated from the mainland by a stone wall eight or nine feet in height. The reservation contains eighteen buildings and can accommodate 800 persons. If necessity demanded, this number could be increased to 1500. Modern steam chambers and other disinfecting machinery have recently been shipped to Havana for installation at the Mariel station. A force of attendants is kept constantly at the station, so that vessels may be referred there for disinfection from Havana or other ports of Cuba. This station forms a valuable adjunct to the equipment in the harbor of Havana.

YELLOW FEVER IN CUBA.

Yellow fever has not been widely prevalent in the island of Cuba the present season, but there have been a considerable number of cases in the city of Havana and at Santa Clara. A few cases have occurred at Pinar del Rio. The chief quarantine officer for the island of Cuba, Surgeon A. H. Glennan, has been attached to the staff of the governor-general, and exercises supervision over all of the quarantine stations in the island. A very efficient system of quarantine has been established by Surgeon Glennan and his predecessor, Surgeon H. R. Carter, which undoubtedly has been of great benefit to the island of Cuba, and has also prevented, up to the present time, the introduction of yellow fever from Cuba into the United States. In the harbor of Havana the floating disinfecting steamer *Sanator*, the finest plant of the kind in the world, is anchored. In addition to this, a shore disinfecting plant is in constant use. All baggage leaving Havana for the United States is now disinfected, and all baggage leaving other ports of the island for the southern states is disinfected. A complete floating disinfecting plant is now in use at the port of Santiago and three other plants will soon be completed for use at the ports of Cienfuegos, Matanzas and Nuevitas, respectively. These several plants will be so disposed along the coast of Cuba that it will be convenient to refer infected vessels from any port on the coast to one or the other of the cities where the plants are located. Vessels disinfected in Cuba in accordance with the United States quarantine regulations, and receiving a certificate to that effect from the medical officer of the Marine-Hospital Service, are, upon arrival at ports of the United States, considered as having been under observation during the time which has elapsed at sea since disinfection, provided no illness of suspicious nature has occurred on board, and thus their time of detention at the quarantine stations of the United States is much lessened. This lessening of detention at quarantine stations of the United States has been a great help to commerce, while at the same time affording as great or greater protection to the United States than under the former methods.

PLAGUE IN SAN FRANCISCO.

The summary of the plague situation in San Francisco, to and including August 18, is as follows: On June 14, Surgeon Kinyoun reported that from March 7 till June 2 there had been in San Francisco 11 deaths from plague, in 10 of which the diagnosis was confirmed by bacteriological investigation. There were at that time three cases of plague under observation, one of which he was positive was genuine, and which bacteriological investigation conclusively proved to be genuine. July 7, another fatal case was reported as having been admitted to the city hospital under the diagnosis of typhoid fever. Cultures from these cases have been made by the board of health of San Francisco, the State Board of Health of California, and the quarantine officer of Victoria, B. C. On August 18 one more case was discovered, in which the microscopical examination gave confirmatory results. By this summary it may be seen that there were 9 cases in the months of March, April and May, 4 cases in June, 1 in July, and 2 in August, 16 cases in all. This week's "Public Health Reports" contains a very interesting article entitled "The Haffkine Prophylactic and Anti-Pest Serum, the Haffkine Prophylactic against Plague and a comparison of its Action with Antiplague Serum," by P. A. Surgeon H. D. Geddings.

INFECTIOUS GASTROENTERITIS IN CONSTANTINOPLE.

The surgeon-general of the Marine-Hospital Service has received a report from the representative of the service in Constantinople, Dr. Spiridion C. Zavitziano, dated August 6, 1900, in which mention is made of a widespread epidemic of infectious gastroenteritis in that city. The disease is almost exclusively confined to children, and the writer makes the statement that not a single child has escaped the epidemic. Many adults have also been affected. The disease is known generally as "cholera nostras." During the month of May eleven deaths occurred from this disease, and during June, ninety-nine. Fifty-six deaths occurred from July 1 to 15. The cases treated by Dr. Zavitviano included about sixty foundlings, and no death occurred among them. The treatment was confined exclusively to the giving of cold baths, as many as twelve a day. In consequence of this treatment, the diarrhea is said to stop in ninety cases out of a hundred, without medication.

PLAGUE SITUATION IN GLASGOW, SCOTLAND.

On receipt of the first rumor concerning plague in Glasgow, orders were issued by the surgeon-general of the Marine-Hospital Service to P. A. Surgeon A. R. Thomas, on duty in London, England, to investigate the rumor and report. Dr. Thomas immediately proceeded to Glasgow and cabled, under date of August 30, 1900, that there had been one suspicious death and several suspicious cases in Glasgow; that the bacteriological examination had not yet been completed; that all contacts had been disinfected and were under medical observation, and that the disease existed in the crowded tenement district. The source had not been traced. On the following day another telegram was received, stating that the local board of health had declared that Glasgow was infected with plague, there having been eleven cases and one suspicious case. Dr. Thomas has been detailed for duty in the office of the U. S. Consul at Glasgow, to inspect the shipping leaving that port for the United States and to issue bills of health in conjunction with the consul. Acting Asst.-Surgeon Hough has been ordered from London to Glasgow to assist Dr. Thomas, and Asst.-Surgeon John F. Anderson has been ordered from Vienna, Austria, to London to assume Dr. Thomas's duties during his absence. At present (September 4) there are reported to be ninety-two persons in Glasgow, either sick with plague or suspected and isolated.

Influence of Menstruation on Gastric Functions. Elsner has been investigating the influence of menstruation on the functions of the stomach and finds that, while the motility is not affected, the chemistry varies from deficient to excessive acidity in many cases. In only five out of the fourteen cases examined were the gastric functions the same during menstruation as at other times. He concludes his communication in the *Arch. f. Verd. V*, 4, by calling attention to the possible source of error in investigating the chemical functions of the stomach during the menstrual period.

Correspondence.

Why Do the Quack and the Faith Curist at Times Succeed.

CLEVELAND, Aug. 31, 1900.

To the Editor:—An exhaustive answer to the above query is not contemplated, as it would greatly transcend the limits of this note, but it is proposed to draw attention to two very chief factors in the success of the irregular, of the "christian scientist," and of others of the prolific breed of "curists." One of the causes is wholly without the influence of the medical profession, being deep-rooted in the inherited mental processes of all mankind, while the other is entirely within the power of the profession to eliminate.

First, as Ratzel, in his "History of Mankind," well says in speaking of the Chinese: "Superstitious medicine is one of the deepest-seated disorders of the human mind, of which perhaps it will never quite be cured." This ingrained, often subconscious, but almost always alert, substratum of belief in the intervention of supernatural agencies in the cure of disease and in the relief of suffering is honestly inherited from our savage forefathers, who made night hideous with the din that was to drive away the evil spirit which had caused the sickness, and whose barbarous attempts to aid the sufferer frequently contributed to the fatal ending, even as now does the neglect of the "faith" devotee. Until knowledge of the natural phenomena of the human body is much more widely diffused—slightly prior to the millennium—the mass of mankind will have an unreasoning and implicit trust in the efficacy of the occult in healing disease. During the next two eons physicians perforce will continue to exercise charitable sympathy with the foibles of the public in matters of health. The thorough study of the life-processes thus far known to us is already so intricate that large numbers of physicians have but a smattering of it, and really make their diagnoses and administer their drugs in a fashion but little removed from that of the "medicine man" of ancient days. However, this class is steadily being superseded by men trained in true physiology.

In the second place, there is a matter that lies to our hand every day and that tends constantly to add recruits to the clientèle of the "healers" of various descriptions and of incongruous designations. Stress of financial need and thirst for reputation lead some of our younger surgeons and gynecologists, together with a few of the older ones, all too often to recommend an operation for the relief of conditions that might well be cared for otherwise; and sometimes, be it said in sadness, for the promised cure of lesions whose existence is apocryphal. What is the result? The patient feels that the occasion does not warrant the danger and expense of an operation, and so drifts along unaided to finally fall into the hands of a "curist" of some breed, to receive the necessary stimulus to renewed mental, and consequently, bodily vigor. This patient then naturally becomes an opponent to scientific medicine, even though he may subsequently relapse and require the aid of a physician. While this is happening every day, it is unnecessary. Physicians who recommend radical methods before giving a thorough trial to gentler means administered with common sense and along with hearty encouragement to the patient, are heedlessly doing their profession, and so themselves, a very great injustice. We must make a living out of our profession, but if we do it at the expense of exact honesty to our patients, we shall have done very badly by the profession to which we owe our education. Slipshod ways of practicing medicine are responsible for a very great deal of the quackery and voodooism that steadily flourishes in our midst.

In our wrathful characterization of those who prey upon the superstitious gullibility of people who are not very sick, let us not forget that most dramatic scene when it was said: "He that is without sin, let him first cast a stone." If we persist in indiscriminately recommending the removal of ovaries for the cure of idiopathic epilepsy, in doing ventrosuspension for the relief of headaches, in curetting every case of leucorrhea, and in advising the opening of every belly that aches, we must not be surprised if some of our patients find

a temporary relief in the gentler hands of the irregular. All of these operations and radical procedures are of inestimable value in their proper place, but we must have a care to advise them only when the conditions imperatively demand it.

In this no disrespect is intended toward the most progressive branch of modern medicine—surgery. On the contrary, it is not the trained surgeon who is at fault in this matter, but the doctors of medium education and limited experience, whose self-confidence leads them to the belief that they are competent to make a surgical diagnosis and to operate. It is the amateur operator, if the expression is permissible, who is chiefly responsible for an unduly large proportion of the best material of the irregulars. The man of lesser experience has not yet learned, or else forgets, that to a very considerable proportion of the laity the word "operation" is in itself possessed of unknown terrors. This dread of radical procedure, even in cases in which it would very probably be beneficial, often is responsible for the drift of the ill-informed and unfortunate patient into the arms of the irregular. Great care should be exercised in recommending radical measures, especially if the physician or surgeon has not known the patient sufficiently long to have fully obtained his confidence. Especially is this true of the younger man, for in the case of the surgeon of well-established reputation his advice, even to a strange patient, comes freighted with the full power of suggestion, and the recommendation of even extreme methods is received with due respect.

It is hoped that these statements will not be received as an indication of a propensity for fault-finding, for they are meant simply to point out one observed manner in which many of us are furnishing recruits to the army that follows the quack and the faith-curist and the patent-medicine man.

P. MAXWELL FOSHAY, M.D.

Dr. Jacobi's Address and Sectionalism.

GREENVILLE, S. C., Aug. 23, 1900.

To the Editor:—As a Southerner I may be excused for taking exception to an altogether gratuitous comment on the South, which appeared in your issue of August 18 last—this, too, by one whose eminence, not to say years, should have put him beyond the pale of provincialism. I refer to the words of Dr. A. Jacobi, the venerable and, I doubt not, venerated source of much that has contributed to the advancement of our science. On page 427 is the following: "The greatest refinement of the East, the wild naturalism of part of the far West, the abject animalism of part of the South, are covered by the same flag." Now, there is, of course, great refinement in the East; and there is also "abject animalism," and plenty of it, in the South. But anyone who knows both peoples knows it is equally true that there is "abject animalism," and plenty of it, in the East, and "great refinement," and no lack of it, in the South. It is not, then, the actual expression to which the Doctor gave tongue that is objectionable, but the inferential and insinuating quality of his remarks addressed to those good people across the water who know us not, save as existing, and who quite naturally accept the imputations and inferences of an eminent American as authoritative and indisputable. To say the least, it was an unfair advantage for the Doctor to take—to contrast the highest stratum of society in his own section with the lowest in his brother's section, and give the impression to his hearers that that difference constitutes the difference of the two sections—and no one present to deny his insinuations.

It may be that I am doing the learned gentleman an injustice in thus alleging a "no fair" play, but in that event his remarks were the outcome, then, of carelessness, or of ignorance of existing conditions, either of which is reprehensible under the circumstances. J. WILKINSON JERVEY, M.D.

Mailing of Sputum.—The Belgian postoffice department has issued an order that all sputa and such substances to be sent by mail for bacteriologic examination must be put up in thick glass bottles, sealed and inclosed in strong wooden or tin boxes, filled with sufficient soft material to absorb the contents if the bottle should be broken. It is also suggested that the nature of the contents should be indicated on the label.

Book Notices.

THE LAW IN ITS RELATION TO PHYSICIANS. By Arthur N. Taylor, LL.B., of the New York Bar. Cloth, pp. 550. Price, $2.00. New York: D. Appleton & Co. 1900.

This little volume has appeared largely as separate articles in the *New York Medical Journal*, but in its collected form its publication is a service to the profession. The author takes up the various subjects that interest the physician in their relation to the law and gives in clearly stated, perfectly intelligible form what we must consider the accepted legal views in regard to them without obscuring them by any unnecessary phraseology or technicalities. The subjects of the rights of the physician and the rights of the patient are fully discussed and the general trend of the law is on the whole one that is somewhat comfortable for the physician to appreciate. It is commonly said that human law is the perfection of wisdom; as medical men we often have reason to see applications of it where this statement is practically reversed, but this fact is due largely to the idiocy of judges and especially jurors. In this country it would seem from recent decisions that we are better off than in Great Britain, and this book bears out this view. It is small, convenient, condensed, and in every way handy, and if, as we assume, correct in its legal statements, a very valuable and convenient hand-book for the average practicing physician on its subject.

FORTY YEARS IN THE MEDICAL PROFESSION. 1858-1898. By John Janvier Black, M.D., member of the College of Physicians of Philadelphia. Cloth, pp. 498. Price, $3.00. Philadelphia: J. B. Lippincott Co. 1900.

This book is a disappointment; it is not exactly what one would suppose it to be from its title. The author starts out as usual with personal history, reminiscences of different prominent physicians he has met in his student life and since, but as the book progresses he covers nearly every subject in medicine, hygiene, etc., that could possibly be brought in. It shows a wide range of knowledge, or reading, and is, on the whole, entertaining and likely to interest the average layman, though, for the reason stated, it will not be so directly edifying to the physician, who should already know a large part of the information the book contains. As might be expected, the author uses the easy narrative style, without special attention to perfect accuracy in minor points, and once in a while his grammar slips. His facts also, though mainly reliable and accurate, suffer somewhat in the same way, as for example when he states that gaultheria procumbens and mitchella repens are identical plants, probably because both are popularly called wintergreen. He gives a large amount of valuable dietetic information and is very full in his remarks in regard to the adulterations and sophistications of wines and alcoholic drinks, but he seems to omit the similar possibility in beer, since he says all lager beer is made of malt. Such inaccuracies as these appear throughout the book and to some extent mar its value. However, it will be found interesting reading and one could pick it up and pass a little time with it without suffering ennui. The information he gives in regard to pomology and kindred subjects will probably be new to many of his professional readers, while the layman will acquire a considerable superficial knowledge of many points in medicine from the perusal of the doctor's book.

A MEMOIR OF HENRY JACOB BIGELOW, A.M., M.D., LL.D., surgeon of the Massachusetts General Hospital, etc. Price, $4.00. Boston: Little, Brown & Co. 1900.

SURGICAL ANESTHESIA, ADDRESSES AND OTHER PAPERS BY HENRY JACOB BIGELOW, A.M., M.D., LL.D. Price $4.00. Boston: Little, Brown & Co. 1900.

ORTHOPEDIC SURGERY AND OTHER MEDICAL PAPERS BY HENRY JACOB BIGELOW, A.M., M.D., LL.D. Price, $4.00. Boston: Little, Brown & Co. 1900.

I. THE MECHANISM OF THE DISLOCATION OF THE HIP. II. LITHOLAPAXY; OR, RAPID LITHOTRITY WITH EVACUATION, BY HENRY JACOB BIGELOW, A.M., M.D., LL.D. Price, $4.00. Boston: Little, Brown & Co. 1900.

The first of these four books contains a biography of Dr. Bigelow; a memoir by Dr. Oliver Wendell Holmes; a tribute by Dr. Reginald H. Fitz; an account of the memorial meeting of the Massachusetts Medical Society; obituary notices, and various papers eulogistic of the life and work of Dr. Bigelow.

The second contains seventeen papers on anesthesia, published at various times between 1846 and 1876, the initial one being the first public announcement of the discovery of surgical anesthesia, and the one which carried the important news to Europe. Dr. Bigelow was one of the first to recognize the truth and the value of the claim made by Morton, and he was most persistent in bringing these views forward until they were accepted. These papers brought together in one volume make most interesting reading, especially for those who are curious to know how this remarkable discovery was received. In this volume also will be found other papers and addresses of a miscellaneous nature, among them being "Fragments of Medical Science and Art," a scholarly address delivered before the Boylston Medical Society of Harvard University in 1846; "Medical Education in America," being the annual address before the Massachusetts Medical Society, 1871; "Vivisection," a subject on which Dr. Bigelow held views in opposition to those held by a majority of the profession at that time and now, and a short paper, now first published, on "Execution by Hanging."

The third volume contains a reprint of Bigelow's "Orthopedic Surgery," an elaboration of the dissertation which obtained the Boylston prize for 1844, and various other medical and surgical papers on a variety of subjects.

In the fourth is printed the treatise on the "Mechanism of Dislocations and Fractures of the Hip," which has long been out of print. Shorter papers on the same subject are also reproduced. His work on the hip-joint is what first brought Bigelow so prominently before the profession in Europe. It was in this paper that he described the Y-ligament and pointed out the influence it had in determining the position of the femur when the caput femoris is dislocated, and that the relaxation of this ligament is the key to the reduction of the dislocation of the hip by manipulation. This volume also includes all of Bigelow's papers on litholapaxy—rapid lithotrity—the first of which was published in 1878. The new operation for crushing and removing from the bladder a stone, no matter how large, was bitterly assailed for a time, especially in England by Sir Henry Thompson, but it was soon accepted by all, and hailed as one of the greatest advances made in modern surgery.

Each of the four volumes is complete in itself, but all are bound in uniform style and make a fitting memorial to one of the greatest of American surgeons.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS. With Especial Reference to the Application of Remedial Measures to Disease and Their Employment Upon a Rational Basis. By Hobart Amory Hare, M.D., B.S., professor of therapeutics and materia medica in the Jefferson Medical College, of Philadelphia. Eighth edition, enlarged, thoroughly revised and largely re-written. Illustrated with 37 engravings and 3 colored plates. Cloth, pp. 798. Price, $4.00. Philadelphia and New York: Lea Brothers & Co. 1900.

The previous editions of this work have a deserved reputation, and for this as well as many other reasons we need not say much in regard to the present volume; the fact that it has reached its eighth edition within ten years is sufficient evidence of its acceptability. A very large number of new facts have been added and it seems to us to be very full in the latest acquisitions to our knowledge. There is little doubt that it will retain the popularity which it so well deserves.

TRANSACTIONS OF THE KENTUCKY STATE MEDICAL SOCIETY, forty-fifth annual session held at Georgetown, May 9, 10 and 11, 1900. New series, vol. viii. Printed for the society, 1900.

The annual Transactions of the Kentucky State Medical Society, containing the papers, minutes, etc. of the meeting held in Georgetown last May, came to hand so much earlier this year than formerly that we unconsciously looked at the title-page to see if it did not bear the date of 1899. We congratulate the members on the radical change in this regard. The book contains some excellent papers, as it naturally must, since Kentucky is noted for having brilliant men in its medical profession. The society is in a prosperous condition, numerically, its membership exceeding 500. The book is a neatly gotten up volume.

Deaths and Obituaries.

HERBERT PARK, M.D., aged 23 years, born in Wigan, England, surgeon of the steamship *Granaense*, of the Red Cross line, died at sea on August 11.

THOMAS WALL, M.D., late of Frederick County, Virginia, died in Carthage, Mo., August 21, aged 67 years. He was a surgeon in the Confederate Army during the Civil War.

THOMAS J. THORPE, M.D., of St. Louis, died August 11 from the effects of a gunshot wound accidentally received. He was graduated from Barnes Medical College, St. Louis, in 1895.

ELEAZAR W. BEEBE, M.D., died at Elizabeth, Ill., August 25, at the age of 72 years. He was a graduate of Chicago Medical College in the class of 1867. He was a zealous prohibitionist and a prominent reform advocate.

WILLIAM B. WATERMAN, M.D., died at his residence in Brooklyn, N. Y., August 20, aged 38 years. He was a graduate of the medical department of New York University in 1887, and on graduation received the Mott medal in anatomy.

GEORGE B. MILLS, M.D., Pleasantville, Ohio, died at the Grant Hospital, Columbus, August 22, from shock following the removal of a malignant growth involving the entire superior maxilla, at the age of 75 years. He was graduated from Starling Medical College, Columbus, in 1871.

FRANCIS FENWICK SMITH, M.D., died in Frederick City, Md., August 26, aged 72 years, after several months' illness. He was graduated from the Jefferson Medical College, Philadelphia in 1854, and practiced at Bladensburg, Prince George's County, Md., from 1854 till 1863, when he moved to Frederick.

FERDINAND E. CHATARD, M.D., of Baltimore, died at Atlantic City, N. J., August 27, from paralysis superinduced by heat exhaustion, aged 61 years. He was graduated from the University of Maryland School of Medicine in 1861, and after an interneship at the almshouse, he pursued his studies for three years in Europe.

ROBERT ALEXANDER RANDALL, M.D., died at his home, Lewistown, Ill., August 19, from peritonitis, aged 42 years. He was a graduate of Rush Medical College in the class of 1881, and practiced for a time in Lewistown, but preferring a business to a professional life, he acquired an interest in a drug store, and for many years was at its head.

CHARLES E. WEHRLE, M.D., died at the Toledo (Ohio) Hospital, August 21, from typhoid fever, at the age of 26 years. He was graduated from the University of Michigan medical department, Ann Arbor, had received an appointment as acting assistant-surgeon in the army and was awaiting orders to proceed to the Orient when he was taken ill.

DAVID P. CHAMBERLIN, M.D., died at his home in Toledo, Ohio, August 23, at the age of 75 years, from long-standing vesical disease. He was a graduate of the medical department of Western Reserve University, Ohio, in the class of 1847. He commenced practice in Hudson, Mich., but on the outbreak of war went to the front and served until he was invalided in 1863. He moved to Toledo and had since practiced there.

JAMES HENRY ROBBINS, M.D., Hingham, Mass., died suddenly August 22, aged 61 years, from neuralgia of the heart. He was a native of Calais, Me., a graduate of Amherst College in 1862, and of Harvard Medical School in 1867. He settled in Hingham in 1880. He was, in 1887, president of the South Norfolk District Medical Society.

MADISON J. BRAY, M.D., the Nestor of the medical profession of Vanderburg County, Indiana, died at Evansville, August 22, aged 89 years. He was born in Maine, attended lectures at Dartmouth Medical College and the Medical School of Maine (Bowdoin College), and was graduated from the latter insti-

tution with honors in 1835. He came to Evansville in 1835 and resided there until his death. He was president of the State Medical Society in 1856, for many years a member of the local board of health, and was a charter member of the county medical society. He was for a time surgeon of the Marine Hospital at Evansville, and at the outbreak of war relinquished practice and recruited the Sixtieth Indiana Volunteers, of which he afterward was made surgeon. After two years he was forced to resign on account of ill health. At the close of the war he was appointed surgeon to St. Mary's Hospital, and held this position for several years.

DEATHS ABROAD

DR. A. BOR, professor at Amiens, France, succumbed to the heat in Paris, August 1.

DR. PAUL LIEVEN, formerly accoucheur to the imperial court of Russia, died recently in his native town, Riga, to which he had retired a year or two ago, after a life of exceptional activity and honor in St. Petersburg.

New Instruments.

Combined Instrument and Sponge Stand and Sterilizing Apparatus.

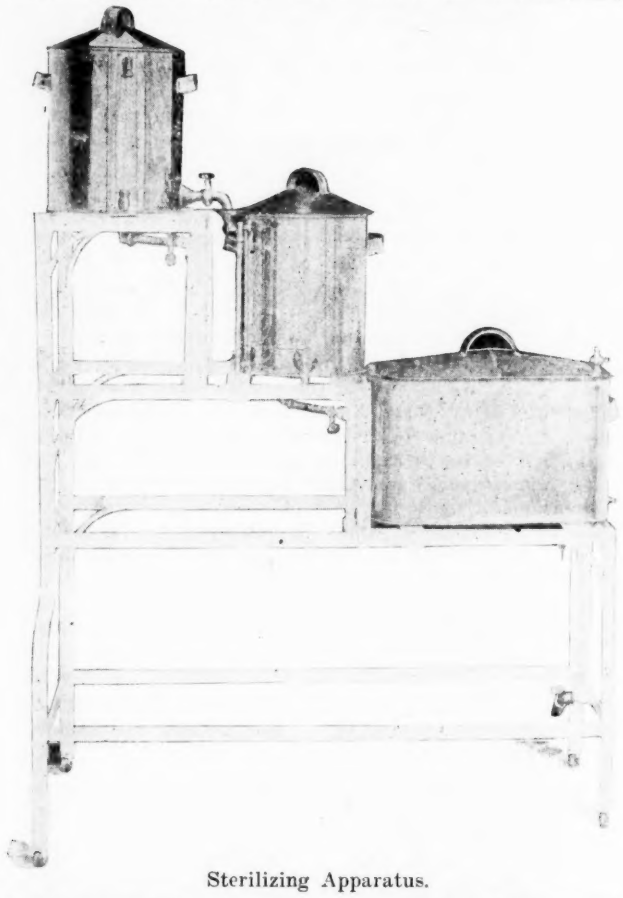
F. F. LAWRENCE, M.D.
COLUMBUS, OHIO.

The accompanying photographs show two satisfactory additions to the operating-room. The first is a combined instrument and sponge-tray stand. It consists of an enameled-iron leaf or table on one side for the instruments, and on the opposite of two rings which support two porcelain basins of large size. One of these is used for small sponges, the other for large ones. At the bottom of the stand is another ring supporting a deep basin, which is also of enameled iron. To the

Instrument and Sponge-Tray Stand.

surgeon, who operates with little or no assistance, this table will be of especial advantage; the basin at the bottom is a receptacle for soiled sponges. In my work I handle all instruments, sponges, in fact everything, using no assistant. I place my instruments either in trays on the solid leaf or on a sterilized towel spread over the leaf—the table standing at my right—with the small sponges in the basin nearest me and the large ones in the other. When I have used a sponge, instead of dropping it into the drainage pan or elsewhere, which would make it difficult to count them, I immediately drop it in the deep basin at the bottom of the stand, and when I have finished my operation the count of the sponges is under my direct observation. The stand would be equally useful to the surgeon who operates with an assistant, the only difference being that the stand would be next to the assistant instead of the surgeon. It is the most satisfactory piece of furniture that I have ever used. It occupies but little space and is easily kept sterile.

The sterilizing stand is made of white enameled iron. Two water boilers of five gallons capacity each are made of heavy copper, each boiler being fitted with a water-gauge, which shows at a glance the amount of water in the boiler without uncovering. This gives ten gallons of sterilized water for use on very short notice. Under each boiler is a gas-burner, regularly connected, arranged so that we can use one or both burners at the same time. The sterilizer, which also has a gas-burner for its operating, is the most satisfactory and at the same time the most inexpensive sterilizer that I have used. It consists of a



Sterilizing Apparatus.

double copper boiler, the outer one larger than the inner, and connected together at the top so as to leave an enclosed space between the outer and inner jackets, of one inch and a half on the sides, ends and bottoms. This also has a water-gauge at one end, which shows the amount of water in the boiler. A valve, to the right and on top of the boiler, is so arranged that when starting the sterilizer it can be opened and a large amount of moisture driven off. Turning the valve half around directs the steam into a tube connected with the inner jacket, which carries it down the end and across the bottom to the center of the sterilizer; hence, it escapes through an opening three quarters of an inch in diameter into the sterilizer and among the dressings. After sufficient sterilizing by steam the valve is turned back to first position and opened, permitting the steam to escape and dry out any excess moisture that may have accumulated from the steam. Sterilizing thus gives practically a double sterilization, namely, that by steam and that by dry heat. I have used a sterilizer made upon similar principles to these for a number of years and it has been most satisfactory.

Forceps for Holding Slides While Preparing Microscopic Specimens.

L. NAPOLEON BOSTON, M.D.

Bacteriologist to the Philadelphia Hospital and to the Ayer Clinical Laboratory of the Pennsylvania Hospital; Demonstrator in charge of Clinical Laboratory in the Medico-Chirurgical College.

PHILADELPHIA.

The rapid increase in the microscope's application to scientific study has necessitated that every microscopist collect specimens of all the interesting objects with which he may meet in laboratory work. Furthermore, it is far more satisfactory to preserve the original specimens as a referencce than to depend on notes, which, aside from the time employed in writing and reading, are always unsatisfactory. In the teaching of chemistry, botany, histology, pathology, bacteriology, and clinical microscopy it is necessary that the student prepare a specimen from each subject studied, both as a reference specimen and to demonstrate, beyond a doubt, that he has mastered this art. In board of health laboratories it is necessary to preserve specimen slides as an assurance against criticism, and for this reason most of the bacteriological work is now done by fixing and staining the specimen on the slides.

The leading objection to the staining of specimens on the slide has been that the management of the slide during the preparation of the specimen was difficult, often resulting in the staining of other structures. The need of a forceps to overcome this difficulty has beeen apparent to every laboratory worker, and such a forceps has been in use, by the writer, during the past year.

This forceps is made from a continuous piece of brass wire, which is nickel plated. The accompanying cut will serve to illustrate the forceps, with the slide locked in position. It will be seeen that the wire is so coiled (1) as to form a spring, which serves to hold the slide between the jaws of the forceps. The lateral coils (2) serve a double purpose, in that they are rests for the forceps and provide convenient places for the thumb and index finger during manipulation. The coil (3) at the base of the jaws is simply to hold them in position. The lateral clamp (4) seen on each jaw is provided with a groove so as to accommodate slides of various thicknesses; beyond this point the slide rests on the wire, which is bent (5) so as to support the forceps when the slide is locked in position.

By this forceps, slides are so held as to make their surface level, thus preventing liquid from changing its position when placed on the center of the slide. The forceps is also well adapted for holding the slide while fixing specimens and for staining with heat.

1524 Snyder Avenue.

Sterilized Dressing for Office Use.

D. H. GALLOWAY, M.D.

CHICAGO.

Every physician does at least a little minor surgery, and has in his office a quantity of dressings for this purpose. No matter how careful he may be to keep these dressings clean and antiseptic, they will at times become contaminated by handling and by contact with the outside of the container. This is inevitable if the doctor dresses his cases without the assistance of a trained nurse—as most of us do. Some doctors treat their dressings in a way the description of which would not look well in a medical journal. Surgical dressings should be kept in a box or jar which can be closed air-tight. A cheap container, which I use, is a half-gallon candy jar with a glass top fastened by a metal ring, which screws down upon it; a rubber ring between cover and jar makes an air-tight joint. In the bottom of this jar under the dressings I keep a small wide-mouth bottle, which is lightly stuffed with absorbent cotton and the cotton is saturated with a 40 per cent. solution of formaldehyde. This keeps the air of the jar continually saturated with the gas and thoroughly sterilizes the contents of the jar between the times of opening for use. No obviously soiled dressings should ever be returned to the jar, but dressings apparently clean may be contaminated sufficiently to infect any clean wound on which they may be used. When the jar is empty I pour a few drops of formaldehyde on the cotton in the bottle and then fill the jar with the sterilized gauze as received from the manufacturer. I am never afraid to use the contents on fresh wounds, though the jar is opened every day for the dressing of all sorts of cases.

Miscellany.

Tuberculosis in Norway.—Dr. Claus Hansen, of Bergen, recently delivered a lecture before the Storthing, at Christiana, on the causes of tuberculosis and the fight against it. He stated that in 1896, 54.5 per cent. of all deaths between 15 and 30 years of age were caused by tuberculosis, and that about 7000 of the inhabitants of Norway die every year of this disease. During the thirty years of his own experience consumption has increased in the Bergen district 80 per cent.

Tuberculosis in Hawaii.—Owing to the alarming increase in the number of cases of tuberculosis in Hawaii, especially among the native Hawaiians and Japanese, the Board of Health of Honolulu is discussing measures directed toward strict quarantine against all tourists who may suffer from this disease. In 1896 the number of deaths from tuberculosis was 48. The number has steadily increased, there being 59 in 1897, 75 in 1898, 93 in 1899, and 114 for 1890.

Havana, Cuba.—Under date of August 14, the report of yellow fever progress during July shows thirty days for the month. The average for the July mortality from 1885 till 1895 reached thirty-four. Last year upward of 25,000 immigrants came to Havana, or thrice the normal number. Non-immunism as a factor, therefore, plays an important part in the calculated gain in the life economy, reducing the mortality in the decade quoted from 4.2 per 1000 to 1.2 per 1000.

Open-Air Marine Treatment for Consumption.—This treatment has been practiced with success for several years in southern Brittany. The Pen-Bron Hospital is used chiefly by working people, the cost of maintenance being provided by the commune from which they are sent. The success of this enterprise has led to the construction of a magnificent private hospital for well-to-do patients, which is built of granite, is near the sea, and is surrounded by pine forests. The hydropathic department comprises hot and cold sea-water baths and sea-weed baths, together with vapor, douche, rain, shower and medicated baths.

Infectious Diseases in Manila.—Major Guy L. Edie, president of the Manila Board of Health, in his report to the Surgeon-General states that smallpox has been prevented from spreading seriously by rigid inspection and vaccination. He proposes to segregate the lepers, who number about 30,000, on one island, where hospitals and other suitable buildings can be erected for their use. Several cases of bubonic plague were diagnosed as typhoid fever, but as soon as the real nature of the disease was discovered active measures were taken for its eradication by a house-to-house canvass made by 100 inspectors, most of whom were Filipino medical students.

Medical Students in Italy.—The total number of students in the faculties of medicine and surgery of the Italian universities during the present academic year (1899-1900) is 6388. They are distributed as follows: Naples, 2009; Turin, 783; Rome, 530; Bologna, 504; Pavia, 496; Genoa, 358; Padua, 309; Palermo, 270; Pisa, 218; Parma, 175; Catania, 167; Modena, 152; Messina, 128; Cagliari, 95; Siena, 81; Sassari, 54. In addition to these, there are three free universities: Camerino, which has 35 medical students, Perugia, with 29, and Ferrara, with 15. In the faculty of medicine of the Royal Institution of Superior Studies at Florence there are 260 students.

New Appliance for Closing Wounds.—Bramson, of Copenhagen, exhibited at the International Medical Congress a little appliance which he finds extremely useful as a substitute for sutures in closing wounds. It can be applied in less than half the time and can be opened and the wound inspected at any time. It is merely a row of small trocars set in a small bar on each side of the wound, fastened with eyelets and buttons.

Prognostic Value of Iritis in Syphilis.—Trousseau's experience with forty cases of recurring iritis in syphilitics indicates that this complication renders the prognosis less favorable. The *Semaine Méd.* quotes his communication in the *Ann. d'Oc.* for May to the effect that in only 6 out of the 40 was the course of the syphilis benign. General paralysis appeared later in 3; tabes in 12; cerebral symptoms in 8 and fatal visceral or other severe symptoms not connected with the nervous system in the rest.

Ulcero-Verrucous Endocarditis.—T. Omeltshenko concludes from study of fifteen cases of acute endocarditis that the streptococcus is the chief agent, and that the endocarditis is only a secondary manifestation of the general streptomycosis. All the various types of acute endocarditis that have been described in literature are merely different phases of a single variety—the acute ulcero-verrucous deposits consist always of layers of fibrin and never appear elsewhere than on the ulcerated surface of the endocardium. The most rational treatment is with antistreptococcus serum.—*Russky Ark. Path.*, 3.

Resection of Upper Jaw With Imperceptible Scar.—Severeano exhibited at the International Medical Congress his method of incising the soft parts for extensive resection of the upper maxillary bone with the minimum disfigurement. The linear incision follows the outline of the nose where it joins the cheek, from the root to the median line of the upper lip, which is also incised perpendicularly. From the root of the nose a short horizontal incision is carried to the inner angle of the eye. It is extended inside the lower lid and continued outward on the same horizontal plane 3 cm. from the outer angle of the eye. The flap thus outlined turns back to an astonishing distance, while the line of sutures when it is replaced is comparatively invisible.

The Discoverers of Quinin.—A statue has recently been erected at Paris in honor of the French chemists, Pelletier and Caventou, who discovered quinin. They announced in September, 1820, the discovery of two essential principles in cinchona, to one of which they gave the name of quinin and established its therapeutic value on a scientific basis. It is interesting to note that Farr, of Philadelphia, was able to supply the American public with domestic manufactured quinin before the close of the year. The statue represents the two scientists in the faculty robes, and was erected by the subscriptions of the pharmacists of France. It was unveiled August 7 on the occasion of the International Congress of Pharmacy.

Extrauterine Pregnancy After the Fifth Month.—F. Jayle has observed in twenty-nine cases of tubal or intraligamentous pregnancy that the danger of serious complications diminishes after the first months of ectopic pregnancy. The death of the fetus at the ninth month is seldom followed by accidents. On the contrary, the patients who were not operated on at once, seemed to benefit by the delay, allowing time for retrogression of the placental circulation after the death of the fetus. In one of the instances mentioned in his article in the *Revue de Gyn*, for January-February, the pregnancy occurred in the middle portion of the tube, simulating the position of a normal pregnancy. In another case the nine-months' fetus had been dead six months before operation, but the extensive adhesions proved no obstacle to the total extirpation of the sac.

Papilloma of the Larynx in Children.—Boulay outlines the conduct to be observed, in an article published in *Arch. de Méd. des Enfants*, for May: the papilloma should be removed by the natural route if possible and the attempt should not be abandoned until every known measure has been tried in vain. If the respiration is not seriously affected, expectant treatment is indicated until the child has attained an age when confidence and docility may be anticipated. If there is dyspnea, tracheotomy should be done, a permanent tube inserted, and results awaited. The papilloma may disappear in consequence, but, if not, temporize if at an unsuitable age for operating, but if otherwise, thyrotomy should be done without delay.

Outdoor Life in Rocky Mountain Region for Incipient Tuberculosis.—A correspondent calls attention to the value of outdoor life for incipient pulmonary tuberculosis under such conditions as obtain in the Rocky Mountain region, and suggests that unfortunately a large majority of those who should avail themselves of the climate cure are unable to do so, chiefly for the reason that there is a lack of accommodations adapted to needs of tuberculous patients, and the expense, with no opportunity of self-support. It is true, he says, that there are a number of well-equipped and well-conducted sanitaria on the eastern slope of the Rocky Mountains, but the high rates charged virtually close their doors to the masses. Believing that there is great need of a practical plan by which those affected with beginning tuberculosis might avail themselves of this climate in combating the disease, he offers the following suggestions as a basis for such plan: 1. A system of stations, i. e., small, inexpensive farmhouses, at intervals of ten or fifteen miles, situated along the Rocky Mountain foothills, adapted to their intended use as stopping-places for patients who are to spend most of their time in leisurely and comfortably traveling up and down this system of stations. 2. Provisions of proper food and dietary for patients, chiefly fresh milk, butter, eggs, poultry, vegetables, etc. 3. Development of the plan of self-support for patients, such as gardening, fruit-raising, rabbit and poultry-raising, dairy produce, etc. 4. Development of a system of instruction and inspection that will thoroughly control all sources of infection from patients.

The International Medical Press Congress appointed a committee, consisting of de Maurans, Baudouin and Blondel, to open communication with representative editors, physicians and legislators in all countries to study the matter of literary property from a medical point of view. Baudouin remarked that illustrations can be considered as merely a series of printed characters arranged in a special manner, and consequently can be copied the same as the same area of printed matter, of course citing the name of the author or source. "The interests of science demand the reproduction of the illustrations with the article when required." The Congress devoted a long session to the question of the reproduction of articles and abstracts, formally passing a resolution to the effect that the name of the author, or of the periodical from which the article or abstract is taken, must always be cited. "This will stop the present piracy," Championnière exclaimed. It was particularly emphasized that every journal has the right to send a representative to the meeting of scientific societies and report the proceedings, but no journal has the right to copy the report from another journal, not even from the official bulletin of the society, without citing the source. Another problem pressing for solution is the competition with the journals issued by the manufacturers for free distribution, in which they laud their own wares and which it is to their interest to render as readable and entertaining as possible. In order to react against this condition of affairs the medical press must be established in its true rôle. The medical journal to-day has to contend with many difficulties, the lowering of the subscription price [we note, by the way, that the *Semaine Médicale* and the *Presse Médicale* have each reduced their rates since August 1 from 10 to 8 francs a year] and the increased expense of printing, publishing, editing, etc., but the chief difficulty of all is the transformation of medicopharmaceutic advertising circulars into pretentious, gratuitously distributed journals. The question of exchanges between medical journals was left to the discretion of the interested parties, with the proviso that they are always based on the absolute respect of literary property. The establishment of libraries in large cities where complete files of all the medical journals in the world can be kept for reference was

"platonically" endorsed by the Congress, but also left to the discretion of the International Association. Another task entrusted to it is the unification of scientific terms the same for all nations, rejecting, as far as possible, the "proper name" terminology. The introduction of decimal classification of scientific subjects, as already exhibited in the new *Index Medicus*, published in Paris, is advocated by the young International Press Association, and Posner announces that after this year it will be formally introduced into the *Berliner Klinische Wochenschrift*. He observes, in an editorial, that it may at first seem complicated, but in reality it is extremely practical and has already stood the test of time in the libraries of the world. It enables a person of any nationality to grasp at a glance the tenor of the contents of a work. He hails it as an "important advance toward the consummation of a rational system of scientific reporting, which will be comprehensible with equal facility to persons of every land and tongue." The most complete report of the Press Congress we have received to date is in the *Progrès Médical* of August 4 and 11. The International Congress of Medicine has been ably reported in all the chief Paris journals, but the *Bulletin Médical* issued almost daily numbers of over thirty-two pages each, devoted exclusively to the Congress.

The Health of Manila.—An interesting report has been made by Major Guy L. Edie, surgeon U. S. Army, and president of the board of health of the city of Manila, P. I. Besides the several functions belonging to a board of health in supervising all works and conditions affecting the public health, the board has general supervision of charitable institutions, prisons and venereal hospitals and the direct control of the vaccin farm, municipal laboratories, chemical and bacteriological, which the board organized, free dispensaries and hospitals for leprosy, smallpox and bubonic plague. In matters of vital statistics, the board claims accuracy as yet only for its record of mortality. The work of vaccination has made its impress on the mortality from smallpox. For the nine months from October, 1899, till July, 1900, there were 7 deaths from smallpox in the city, while in the month of March, 1899, there were 75 deaths from this disease. The work of vaccination was effected with much difficulty, as the authorities did not consider it advisable to make vaccination compulsory. During the year 622,030 points of vaccin virus were furnished to the army and navy of the United States and to the native inhabitants of the archipelago outside of the city of Manila. In the city and suburbs 114,654 vaccinations were effected. The total number of deaths during the nine months, October, 1899, till June, 1900, inclusive, was 8535, of which 3507 were in children under 5 years of age. The population is variously estimated at from 350,000 to 600,000. During the same period diarrheal diseases caused 1073 deaths; tuberculosis, 992; beri-beri, 642; acute lung diseases, 631; malarial fever, 338; typhoid fever, 41; bubonic plague, 167; leprosy, 46, and smallpox, 7. Besides the 167 deaths recorded from plague a number averaging about 50 per month occurred in the Chinese quarter without medical attendance and unreported, some of which were probably due to plague. Only one death from plague occurred among Americans, and that in the case of a quartermaster's employe. The total number of cases of plague reported was 225, of which only 58 recovered. The opinion formed by Major Edie, from his experience of the past six months, is to the effect that little difficulty will be experienced in controlling the disease in any intelligent community with modern sanitary conditions. The board made early application to the government laboratories in Bombay for Haffkine's vaccin material. Some was obtained from the marine-hospital surgeon, who has also recently received some Yersin serum. It is almost impossible, without the use of force, to use the Haffkine vaccination on Chinese or natives. A thorough test has not been given to either of these materials, but the board has not been favorably impressed with them. Major Edie can not speak in too high terms of the absolute fearlessness, energy and cheerful coöperation of every medical officer associated with him in this work, nor of the faithful and efficient services of the men belonging to the hospital corps of the army on duty with the board.

Societies.

Coming Meetings.

The Canadian Medical Association, Ottawa, Sept. 12-14.

American Association of Obstetricians and Gynecologists, Louisville, Ky., Sept. 18-20.

Medical Society of the State of Pennsylvania, Wilkesbarre, Sept. 18.

Medical Society of the Missouri Valley, Council Bluffs, Ia., Sept. 20.

American Electro-Therapeutic Association, New York City, Sept. 25-27.

American Public Health Association, Indianapolis, Ind., Oct. 22-26.

Idaho State Medical Society, Boise, Oct. 4-5.

Utah State Medical Society, Salt Lake City, Oct. 4-5.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 11-13.

Vermont State Medical Society, Rutland, Oct. 11-12.

New York State Medical Association, New York City, Oct. 16-18.

Medical Society of Virginia, Charlottesville, Oct. 23.

THE ASSOCIATION OF HOSPITAL SUPERINTENDENTS elected, at their second annual meeting in Pittsburg, Pa., on August 22, the following officers: President, C. H. S. Howell, of Pittsburg; vice-president, Dr. F. E. Baker, of Newark, N. J.; secretary, J. S. Knowles, of Cleveland; treasurer, A. W. Shaw, of Detroit.

ORLEANS PARISH (La.) MEDICAL SOCIETY.—At the meeting of this society, August 25, Dr. Louis G. Le Beuf read a paper on "The Medical Diseases of the Kidney." Dr. Edward J. Huhner described an apparatus devised by him for the relief of talipes calcaneus, and Dr. Rudolph Matas reported a case of abdominal aneurysm treated by preliminary abdominal section followed by wiring and electrolysis.

FOURTH INTERNATIONAL DERMATOLOGICAL CONGRESS.—This congress, under the presidency of Dr. E. Besnier, which has been most successful in every way, has just ended. The next congress will be held in Berlin, with Prof. E. Lesser, Berlin, president. Drs. J. Nevins Hyde, Chicago, Henry W. Stelwagon, Philadelphia, and J. Caspar Gilchrist, Baltimore, who were present and read papers, extended to the members, in behalf of the American Dermatological Association, a cordial invitation to hold the next meeting in the United States. It seems, however, that Berlin had a claim for the congress this year, Paris having already had one previously; but at the last congress, held in London, the French representatives requested as a special favor, owing to this being Exposition year, that it be held in Paris. This was conceded, with the distinct understanding that Berlin should have the next. The American representatives, after learning these facts, gave their votes for Berlin. In return for this courtesy it was promised the United States representatives that the congress following that of Berlin should be held in New York.

ROCKY MOUNTAIN INTER-STATE MEDICAL ASSOCIATION.—At the second annual meeting of this society, held in Butte, Mont., August 28 and 29, the following papers were read and discussed: G. T. McCullough, Missoula, on "Gastric Fever Affecting Children"; A. M. Holmes, Denver, on "Some Problems Pertaining to Tuberculosis"; H. D. Niles, Salt Lake City, on "Diagnosis of Renal Calculus"; I. B. Perkins, Denver, on "Report of Abdominal Cases"; W. W. Bulette, Pueblo, on "Treatment of Acute Otitis Media"; John O. Polak, Brooklyn, N. Y., on "True Conservatism in the Treatment of Pus in the Pelvis"; J. F. Spellman, Anaconda, "Report of Three Interesting Surgical Cases"; W. W. Grant, Denver, on "Fractures of Elbow-Joint"; W. W. Woodring, Mt. Pleasant, Utah, on "Treatment of Variola"; George H. Barber, Helena, "An Unusual Case of Preputial Calculi"; John A. Donavan, Butte.

"Shall the Family Physician Do Refractions?"; E. P. Hersey, Denver, on "The Use of Pilocarpin in the Treatment of Inebriety"; I. N. Love, St. Louis, on "Some Points in the Management of Appendicitis, from a Medical Standpoint"; William Treacy, Helena, on "Interstitial Nephritis"; J. N. Hall, Denver, on "An Unusual Epidemic of Chicken-pox"; Hubert Work, Pueblo, on "Chorea Insanies"; S. D. Hopkins, Denver, "Clinical Significance of Tremor"; T. A. Grigg, Butte, on "The Use and Abuse of Glasses"; D. H. Coover, Denver, on "Excision of Upper Cervical Sympathetic Ganglion for the Relief of Simple Glaucoma"; Robert Levy, Denver, on "The Lingual Tonsil"; George W. King, Helena, on "Foreign Bodies in the Esophagus"; George H. Stover, Denver, on "Clinical Appearance of the Blood in Anemias"; A. A. Kerr, Salt Lake City, on "Observations on and Deductions and Generalizations from the Administration of About One Thousand Anesthetics"; E. A. Irwin, Boulder, Mont., on "Practical Points on Feeding the Sick"; C. K. Fleming, Denver, on "Treatment of Retro-Displacements of the Uterus"; T. D. Tuttle, Helena, on "Mastoiditis, When Does It Begin, and When Shall We Operate?"; John O. Polak, Brooklyn, N. Y., on "Infections of the Pelvic Organs in Young Girls"; B. C. Brooke, Helena, on "Double Operation for Undescended Testicle"; Edward Jackson, Denver, on "Principles of Asepsis Applied to Operations on the Eye"; Rudolph Horsky, Helena, on "Malpractice Suits and the X-Ray." Dr. C. K. Cole, Helena, delivered his address as retiring president.

Therapeutics.

For Ulcers.

℞. Bromol ..... gr. xv | 1
Vaselini ..... ʒi | 32

M. Sig. As a local application. —*Phil. Med. Jour.*

Bromol is obtained by pouring an aqueous solution of bromin in an aqueous solution of phenol; a white, clear precipitate results. The crystals are insoluble in water, but very soluble in alcohol and in fatty and volatile oils.

Painful Menstruation.

℞. Acetanilidi ..... gr. iii | 18
Caffeinæ citratæ ..... gr. ss | 03
Sodii bicarb ..... gr. iii | 18

M. Sig. At one dose. To be repeated in one hour if necessary.

Floeckinger, in the *New Orleans Med. and Surg. Journal*, advises the following in cases of simple colds attended by pains in back and limbs.

℞. Heroin hydrochlor ..... gr. 1/12 | 005
Salophen ..... gr. x | 66
Sacch. lactis ..... gr. iii | 18

M. Sig. One powder every two hours.

Wet and Dry Surgical Dressings.

1. A dry dressing is superior to a wet one in incised wounds.
2. In contused and lacerated wounds a wet dressing should be employed for a week or two, followed by a dry one.
3. In carbuncles, boils and infected wounds a wet dressing is indicated.
4. When pus has burrowed and sinuses exist, packing and a dry dressing are preferable.
5. In deep punctured wounds with a small orifice a wet dressing is best.
6. In all wounds of the scalp, whether infected or not we should use a dry dressing.

—R. M. Skillern: *Phil. Med. Journal.*

Creosotal.

Chas. F. Stokes, in the *Brooklyn Med. Journal*, reports seven cases of lobar pneumonia successfully treated by creosotal in conjunction with heart tonics. He noted a rapid fall in temperature following its administration. It was given in capsule, in doses of twelve minims every two hours. Creosotal is prepared from beechwood creosote and not from guaiacol. It is quickly absorbed, and is said to give less disturbance than creosote.

Enlargement of the Prostate Gland.

℞. Potassii iodidi
Extracti hyoscyami āā ..... gr. ii | 12
Olei theobromæ q. s.

M. Fiat suppositorium. —*The Prescription.*

Hemorrhoids.

The *Philadelphia Medical Journal* notes the following in treatment of hemorrhoids, by Dr. Boas, in *Centralblatt für Therapie:*

℞. Chrysarobin ..... gr. 1/5 | 072
Iodoformi ..... gr. 30/100 | 02
Ext. belladonnæ ..... gr. 15/100 | 01
Cacao butter ..... gr. xxx | 2

M. For one suppository. Sig. Two or three may be used daily.

℞. Ext. hamamelidis fluidi ..... ʒi | 32
Ext. hydrastis fluidi
Tinct. benzoini comp. āā ..... ʒss | 16
Tinct. belladonnæ ..... ʒi | 4
Ol. olivæ (cum acid carbol five per cent.)
q. s. ad ..... ʒiii | 96

M. Sig. Apply frequently to the parts. —*Med Bulletin.*

AS AN OINTMENT.

℞. Chrysarobin ..... gr 1 1/5 | 072
Iodoformi ..... gr ½ | 03
Ext. belladonnæ ..... gr. 1/6 | 01
Vaselini ..... ʒss | 16

M. Sig. As an ointment two or three times daily.

Chrysarobin is a principle obtained from Goa powder, a concretion found in the stems and branches of Andira araroba. It is generally employed in ointment of 10 per cent. strength in treatment of various diseases of the skin. It is a light-yellow crystalline powder, very slightly soluble in water or alcohol but fully soluble in alkalies.

Hydrastis in Dysmenorrhea.

℞. Tinct. hydrastis
Tinct. viburni prun. āā ..... ʒiv | 16

M. Sig. Ten drops every two hours, in water.

—*Gazette de Med. et de Chir.*

Gastralgia.

℞. Chloralis hydratis ..... gr. iii | 20
Sodii hyposulphitis ..... gr. vi | 40
Aq. menth. piperitæ ..... ʒi | 4

M. Sig. At one dose. Repeat as required by frequency of attacks, guarding against overuse of chloral.

Facial Neuralgia.

℞. Butyl chloral hydratis
Alcoholis, āā ..... ʒiiss | 10
Glycerini ..... ʒv | 20
Aquæ destil. ..... ʒiv | 128

M. Sig. Half a soupspoonful to be taken daily.

—*Bocquillon-Limousin.*

Carbuncle.

℞. Antipyrini ..... ʒiiiss | 14

Ft. chart No. xx. Sig. One powder in water every two hours, or,

℞. Ammon. carbonatis ..... ʒiiss | 10
Ext. coffee flu. ..... ʒss | 16
Syr. simplicis, q. s. ad ..... ʒiv | 128

M. Sig. One or two teaspoonsful every two hours.

—Shoemaker.

Acute Follicular Tonsillitis.

℞. Sodii boratis ..... ʒiss | 6
Potassii bromidi ..... ʒiss | 6
Acidi carbol ..... m. xx | 1 33
Glycerini ..... ʒii | 8
Infusi althææ q. s. ad ..... ʒiv | 128

M. Sig. Use as a gargle four or five times a day.

—*Jour. de Med. de Paris.*

Acute Pharyngitis (Acute Sore Throat).

℞. Decoct. althææ fol. (parts 1 to 10) .. ʒvi | 192
Tinct. opii ..... m lxxv | 5

M. Sig. Use as a gargle four or five times a day.

Apply wet compresses to the neck; give the patient small lumps of ice to hold in the mouth. —*Exchange.*

Powder in Acute Suppurative Otitis.

℞. Sodii biboratis
Sodii bicarb. āā ..... gr. i | 06
Amyli ..... gr. i | 06
Pulv. acaciæ ..... gr. iv | 24
Nosophen, q. s. ad..... ʒi 4

M. Sig. Cleanse thoroughly, then blow some of the powder in the ear. —*Exchange.*

Otorrhea.

℞. Liq. plumbi subacetatis (Goulard's ext.)
..... m. xx 1 | 33
Acidi acetici diluti..... m. vi | 36
Vini opii..... m xx 1 | 33
Aquæ destil., q.s. ad..... ʒi 32

M. Sig. Drop ten drops into the ear three or four times a day, previously warmed. — *N. Y. Med. Jour.*

Acute Orchitis.

℞. Tinct. aconiti ..... ʒii 8
Guaiacoli ..... ʒi 32
Glycerini ..... ʒiii 96

M. Sig. Paint the scrotum with this solution night and morning and place over it a piece of gauze saturated with the above. Over this a layer of cotton covered by a piece of oil silk and support the testicle.

—V. Buchtel: *Louisville Jour. of Med.*

Lupus Vulgaris.

℞. Hydrarg. ammoniati ..... gr. x | 66
Acidi carbolici ..... m. x | 66
Pulv. camphoræ ..... gr. x | 66
Ung. zinci oxidi ..... ʒi 32

M. Ft. unguentum. Sig. Apply locally. —*Med. Bulletin.*

Acute Gastrointestinal Catarrh.

℞. Creosoti ..... m. xii | 72
Tinct. opii camphoratæ..... ʒiv 16
Bismuthi subnitratis ..... ʒiii 12
Pepsinæ scales ..... ʒi 4
Syr. aurantii corticis..... m. xxx 2
Aq. menth. piperitæ q. s. ad ..... ʒiii 96

M. Sig. One teaspoonful every two hours for a child of 2 years. Vary with the age and severity of the case.

—*Med. Record.*

Otalgia.

℞. Quininæ sulphatis ..... gr. xviii 1 | 2
Potassii iodidi.. ..... gr. xxxvi 2
Sacchari albi ..... gr. xlv. 3

M. Ft. Chart. No. vi. Sig. One twice a day.

IN CHRONIC FORM.

℞. Zinci oxidi
Valerinæ radicis
Ext. hyoscyami alc., āā ..... ʒss 2
Pulv. ext. glycyrrhizæ, q. s.

M. Ft. pil. No. 100. Sig. One a day, increase from one a day up to thirty, then decrease. Politzer: *Med. Rec.*

Chronic Prostatitis.

℞. Ichthyolici ..... ʒii-ʒv 8-20
Olei theobromæ ..... ʒiss 48

M. Ft. suppos. No. xxiv. Sig. Insert one suppository into the rectum in the morning after stool and in the evening. If defecation occurs a second time, use another suppository. The symptom of painful defecation, sense of weight and disturbances of micturition will be favorably affected as the prostate decreases in size and induration.

—Frendenburg: *Med. Record.*

Removal of Ear Wax.

℞. Hydrogeni dioxidi (50 per cent.).... ʒiv 128
Sig. Use in syringing out the wax.

In an article in the *Phila. Med. Journal* hydrogen dioxid is recommended in one-half strength as the best solution to use in the ear, causing no irritation after drying well with absorbent cotton.

Carbuncle or Boils.

℞. Olei olivæ ..... ʒxv 60
Plumbi oxidi ..... ʒiiiss 14
Olei lavendulæ ..... ʒi 4

M. Sig. Apply locally as an ointment. —Bulkley.

Liniment in Rheumatism.

℞. Spts. camphoræ
Tinct. opii
Spts. ammoniæ, āā..... ʒss 16
Olei olivæ ..... ʒi 32

M. Ft. emulsio. Sig. Apply locally four or five times daily. —*Med. News.*

Liniment for Sprains.

℞. Ol. terebinthinæ
Acidi acetici, āā..... ʒii 64
Ol. lavendulæ ..... ʒi 4
Vitelli ovi
Aquæ, q. s. ad..... Oi 512

M. Sig. Apply two or three times daily. —*Exchange.*

Inflamed Rheumatic Joints.

℞. Sodii carbonatis ..... ʒvi 24
Tinct. opii ..... ʒi 32
Glycerini ..... ʒii 64
Aquæ destil., q. s. ad..... ʒxii 384

M. Sig. Saturate hot cloths with the lotion and apply to the parts. —Osler: *Penn. Med. Jour.*

Erysipelas.

℞. Ferri sulphatis ..... ʒi 32
Aquæ destil. ..... Oi 512

M. Sig. Apply by compresses and renew every two or three hours. —Valpeau.

Gonorrhea.

℞. Plumbi acetatis ..... ʒss 2
Zinci sulphatis ..... gr. xvi 1
Ext. krameriæ fluidi ..... ʒii 8
Tinct. opii ..... ʒss 16
Aquæ destil., q. s. ad..... ʒvi 192

M. Sig. Use as an injection two or three times a day.

—Horwitz.

Swollen Feet.

In gouty or rheumatic subjects, non-dropsical in character.

℞. Tablets acidi arsenosi, āā..... gr. 1/40 | 0015
Sig. One tablet after each meal. —Hare.

Convulsions in Children.

It is recommended that a warm bath or mustard bath be given the child, and to prevent recurrence of convulsions give the following:

℞. Potassii bromidi
Sodii bromidi
Ammon. bromidi, āā..... gr. viii | 50
Syr. aurantii ..... ʒi 32
Aquæ destil., q. s. ad..... ʒiii 96

M.. Sig. One to three teaspoonfuls every fifteen or twenty minutes for a child 2 years of age or older.

Epistaxis (Nose Bleed).

Dissolve six ordinary strips of white gelatin in a cup of boiling water and inject 20 to 30 cm. (2/3 to 1 ounce) of the liquid warm solution into the nostril, first compressing the alæ nasi so as to prevent the escape of the liquid, which quickly forms a mass and checks the hemorrhage.

—Experiment of Freudenthal: *Med. Record.*

Parasiticide Ointment.

℞. Acidi salicylici ..... gr. xlv 3
Sodii boratis ..... gr. xv 1
Balsam peru ..... gr. xxx 2
Ethereal essentiæ anisi ..... gtt. v. 1 | 33
Essentiæ bergamot ..... gtt. xx 1 | 33
Vaselini ..... ʒvi 24

M. Ft. unguentum. Sig. Apply to part affected.

—*Exchange.*

Hypodermics Rendered Less Painful.

Dr. Stowall, in *Med. Rev.*, states that hypodermics are rendered less painful and more readily absorbed by dissolving the tablet in a saline solution instead of water alone.

New Method of Treating Syphilis.

Wear a bag containing mercury on the chest, a dram of the metal being poured into the bag each day.

—Bulkley: *Denver Medical Times.*

Medicolegal.

Opinion to Be Rejected.—When the opinion of a medical expert is based on a hypothetical question, the Supreme Court of Michigan holds, in the case of Dudley vs. Gates, that it is proper to instruct the jury that if the facts, or any of them, are not true, the opinion must be rejected by the jury.

Loss of Left Arm Not a Total Disability.—A contract of insurance with a fraternal insurance company provided for the payment of a certain benefit whenever a member thereof, by reason of disease, accident, or otherwise, became totally and permanently disabled from following his usual or regular business, occupation or profession. A member, who was a pharmacist and engaged in running a drug store, was accidentally shot in the left arm, which was amputated at the shoulder-joint. No other injury was alleged to have been sustained. But the loss of the left arm alone, the Supreme Court of Kansas holds, in an action upon the contract of insurance, case of Smith vs. Supreme Lodge of Order of Select Friends, did not constitute a total disability within the terms and meaning of the contract. It is a matter of common knowledge, the court says, that much, if not all, of the work and business of a druggist can be fairly well done by one who has lost a hand. He will not be able to compound medicines so conveniently and expeditiously as a person who has both hands, but a large proportion of the medicines sold in a drug store to-day, the court understands, are compounded and ready for sale before they reach the hands of the retail dealer. It is equally well known, it thinks, that a large proportion of the business of the ordinary drug store consists in the sale of medical stores and instruments, toilet articles, holiday goods, cigars, soda and mineral waters,; etc. and hence, the court asserts, all know that this, if not all, the work of the druggist may be done, and the business conducted, with reasonable efficiency, by a person who has lost a hand.

Upholds Age of Consent Statute.—The Supreme Court of Minnesota holds, in State vs. Rollins, that the "Age of Consent" statute of Minnesota, which makes it criminal to carnally know and abuse a female child under the age of 16 years, is not void for uncertainty, but a valid penal enactment. But, it was further urged that, besides the objection thus met, there was a fatal conflict with the marriage laws of the state. Not so, however, thinks the court. It holds that this penal statute does not apply to relations between married persons within the ages authorized by law for entering upon the marriage contract. Indeed, it even thinks that the statutes harmonize together quite well; and it boldly asserts that it does not fear that the rigid enforcement of this statute will place seducible boys at the mercy of foolish girls under 16 years of age. It does not consider that the young men are so much in need of restraint as a more mature specimen of masculinity familiarly known as the "masher"—described by it as a parasite upon woman, rather than her support; very crude in his notions of her better qualities, and selfish and cruel in his conquests over inexperienced females who may be misled by his baneful attentions, to their own injury, before they are fully aware of the danger they incur, and descend into that social abyss from which return is very difficult. Moreover, it declares that it sees no violation to language, good sense or common decency to hold that sexual connection with a female under the prohibited age, however slight, constitutes abuse, and, in view of the history of the law, it says that it has no doubt that this was its intent when enacted. So it holds that proof of any act of sexual connection between the female and the party charged with the commission of the offense will sustain a conviction under the statute.

Menstruation too Improbable.—In Howard vs. People, the Supreme Court of Illinois had before it an abortion case wherein, on account of the death of the alleged, unfortunate victim, the prosecution was driven to rely on circumstantial evidence to sustain its charge. There was, for one thing, uncontradicted evidence that for two or three nights prior to the date of the reception of the girl in the house of the accused she was not in her usual health; that she had hemorrhages, which the witness, a female companion, or roommate, presumed to be the result of her menstruation period. Also, evidence that, on the morning she reached said house, as she passed up the stairway to the room assigned her, drops of blood fell from her person on the carpet and matting. Physicians were called to testify on behalf of the accused, who gave opinions to the effect that the miscarriage had taken place prior to these hemorrhages. The prosecution offered the testimony of other physicians, who testified that, although very unusual, women do menstruate during pregnancy, and it semed to be the theory of counsel that the hemorrhages mentioned were explained in this manner. But not so thinks the supreme court. It declares that the extreme improbability of menstruation in the case of a woman from four to four and one-half months in pregnancy, together with the fact that an abortion took place at about that time, refuted, to its mind, the idea of those hemorrhages resulting from natural causes. On the other hand, the court does not consider that it followed, from all the facts and circumstances in proof, that the miscarriage was produced prior to the time the girl went to that house, without any guilty knowledge or agency on the part of the accused. The girl, in all probability, it thinks, had, with or without the counsel of others, attempted to bring about the miscarriage, and the hemorrhages may have resulted from such attempts. So, when all the facts in the case and the theories of the physicians, which, it says, necessarily were only theories or matters of opinion, were carefully weighed, the court holds that it could not be said that the jury was unwarranted in its conclusion that the accused was guilty.

Death from an Overdose of Morphin.—A policy of life insurance contained this clause: "In the event of the death of the insured from suicide, whether sane or insane, within three years from the date hereof, the liability of the company shall be limited to a return of the premiums paid on this policy." Its construction was called for, or rather the question of the company's liability thereunder was raised, in the case of Brown vs. Sun Life Insurance Company, where the insured died from an overdose of morphin. This leads the Court of Chancery Appeals of Tennessee to say, to begin with, that it is a proposition of law, supported by authority as well as reason, that this and similar clauses in policies of insurance, conceding them to be valid, are not infracted by the accidental and mistaken taking of an overdose of medicine or poison or by the unintentional taking of his life by the insured. The principle or rule, in cases of this character, it goes on to state, is equally supported that suicide or intentional destruction by one's own hand is not presumed. The presumption is otherwise. The company interposing the defense of suicide, whether sane or insane, must overcome this presumption, and satisfy the jury or court trying the case, by a preponderance of evidence, that the self-destruction was intentional. Here, there was no evidence that the insured was insane. He was of foreign birth, about 58 years of age, and subject to rheumatic attacks. Less than three hours before his death he called for 12 grains of morphin. Asked by the druggist, who testified that he saw no evidence of derangement at the time, whether he desired it put up in proper doses, he replied that it was not necessary, as he knew how or in what quantity to take it. He had no relatives to benefit by dying, and leaving them to get the proceeds of the policy and his other effects. Nor had he been disappointed in love, or in any scheme of business or money-making. Sometimes, however, when suffering from rheumatism, he drank to excess. Under these circumstances, taking the facts in connection with the legal presumption stated, the court holds that it was proper to find as a fact that the insured did not designedly take an overdose of the drug for the purpose of ending his life, although it thinks that the question of whether he purposely took an overdose of the drug, or innocently, ignorantly or accidentally did so, was about evenly balanced.

Maintenance of Pest-House Close to School.—The Court of Civil Appeals of Texas has approved, in the case of Thompson vs. Kimbrough, of the suppression by injunction of the maintenance of a pest-house, for smallpox suspects and those afflicted with the disease, within 192 feet of a public school,

on property purchased by the county. One of the contentions was that the school district trustees had no legal right to maintain a suit for injunction against the county judge, commissioners' court and county health officer. But the court answers that, if the ground of interest alone be considered, it would certainly appear that the trustees had such interest in the premises as would give them standing as complainants against persons attempting to injure the school property and interfere with the operation of the school. Then, it was contended that the law invested the commissioners' court, in connection with the county health officer, with exclusive and final jurisdiction in the matter of establishing and maintaining pest-houses and detention camps to prevent the spread of smallpox and other infectious and contagious diseases, and that the exercise of this jurisdiction was not subject to review by any judicial tribunal. Referring to the Texas statutes on the subject of quarantine, the court says that they authorize cities and counties to establish and maintain quarantine when thought necessary for the preservation of the public health, and require their co-operation with the state authorities in the maintenance of a quarantine proclaimed by the governor of the state. It is also required that the county judge of each county shall appoint, after each general election, a "county physician," who is made the health officer of the county. He is charged with the duty of establishing, maintaining and enforcing local quarantine, when declared by proclamation of the commissioners' court. The commissioners' court is authorized whenever it is believed that they are threatened with the introduction or dissemination of a dangerous, contagious or infectious disease that may be guarded against by quarantine, to establish and maintain detention stations or camps; to provide hospitals, tents or pest-houses for the sick, etc.; and the county is required to meet the expenses. Now, it may, and perhaps should be, admitted, the court goes on to say, that the exercise of the authority of the commissioners' court to proclaim quarantine, and to have it established, maintained and enforced through the county physician, is not subject to review by judicial tribunals. But, the court says, it does not necessarily follow that all of the acts of the officers and agents of the county in relation to the subject-matter are beyond the reach of judicial authority. The authority of the commissioners' court to proclaim and cause the enforcement of quarantine does not carry with it the arbitrary power in the officers and agents of the county to unnecessarily violate the rights of others. The existence of such authority does not imply that the officers and agents of the county may establish and maintain a nuisance, either public or private, not necessary to the end to be accomplished. The establishment of a detention station and pest-house in which to place, respectively, persons who have been exposed to smallpox, and those afflicted with the disease, in such close proximity to a public school that the germs of the disease may, and probably would, be disseminated among the children attending such school, the court holds, furthermore, would be the worst character of nuisance, and would violate the rights of those interested in the school. To uphold such an act, it adds, would not strengthen the county's efforts to prevent the spread of the loathsome and dangerous disease, but it would support the very means of its dissemination, and thereby defeat the humane object which the law designs to be accomplished.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, August 25.

1 *Military Surgery. (Concluded.) W. C. Borden.
2 An Apparatus for Making Roll-Cultures. George H. F. Nuttall.
3 *The Psychoses of the Menopause. John B. Chapin.
4 *A Contribution to the Significance of Koplik's Spots in the Diagnosis of Measles. Jose L. Hirsh.
5 Two Cases of Trichinosis with Eosinophilia. Wm. Watt Kerr.
6 *Physical Diagnosis in its Relation to the Stomach and Associated Organs. B. C. Loveland.

Medical Record (N. Y.), August 25.

7 *Errors Caused by the False Interpretation of the Roentgen Rays, and their Medicolegal Aspects. Carl Beck.
8 *The Presence of Virulent Tubercle Bacilli in the Healthy Nasal Cavity of Healthy Persons. Noble W. Jones.
9 Anuria Followed by Retention of Urine in a Case of Hysteria. Alfred Gordon.
10 *What Are Necessary and Desirable Data upon Health Resorts? Edward O. Otis.
11 Tumor Albus. Frank E. Peckham.
12 *A Further Report upon the Use of Pure Carbolic Acid in the Treatment of Mastoid Wounds and Chronic Suppuration of the Middle Ear. Wendell C. Phillips.

New York Medical Journal, August 23.

13 The Annual Address of the President of the American Laryngological Association. Samuel Johnston.
14 *On a New Method of Operation for Exstrophy of the Bladder. Carl Beck.
15 A Case of Cyst of the Epiglottis. W. L. Bullard.
16 Bladder Incrustations, Multiple Phosphatic Calculi; Median Lithotomy, Irrigation, etc. J. Coplin Stinson.
17 Case of Murphy-Button Anastomosis. William C. Wood.
18 *Laryngitis a Provoking Cause of the Asthmatic Paroxysm. William C. Glasgow.
19 *Secondary Hemorrhage Following Use of Suprarenal Extract. Frederick E. Hopkins.

Boston Medical and Surgical Journal, August 23.

20 Medicine as a Science and Medicine as an Art. Philip H. Pye-Smith.
21 Repeated Ectopic Gestation in the Same Patient, with Operation in Each Case. Malcolm Storer.
22 *Mortality of Hysterectomy for Fibroids. F. H. Davenport.
23 *Hysterectomy for Myoma in America. Ernest W. Cushing.
24 *Immediate Repair of Perineal Tears. E. S. Boland.

Medical News (N. Y.), August 25.

25 *The Construction and Management of Small Cottage Sanatoria for Consumptives. Arnold C. Klebs.
26 Co-operation of the Public Schools in Teaching "Good Teeth, Good Health." Richard Grady.
27 Tuberculosis and Modern Methods for Its Prevention. H. H. Vinke.
28 *The Abortive Treatment of Acute Mastoiditis. James F. McKernon.
29 *Medullary Narcosis During Labor: A Preliminary Report. S. Marx.

Cincinnati Lancet-Clinic, August 25.

30 *Symptomatology of Pulmonary Tuberculosis. Benjamin F. Lyle.
31 The Pathology of Tuberculosis. J. E. Greiwe.

St. Louis Medical Review, August 25.

32 *Prophylactic Measures and Precautions to be Observed after Simple Fractures, with a View of Obviating Such Degenerative Lesions as may Arise in Consequence of Injuries of the Arteries or Circulatory Apparatus. Thomas H. Manley.

Pediatrics (N. Y.), August 1.

33 Acute Dilatation of the Heart in Influenza of Children. F. Forchheimer.
34 A Case of Congenital Dislocation of the Wrist. Philip Hoffman.
35 One More Case of Apyretic Membranous Croup. A. E. Cordes.

American Practitioner and News (Louisville, Ky.), July 15.

36 Doctorate Address. Roswell Park.
37 *The Office of Motherhood. Ernest G. Mark.
38 Local Paralysis due to an Overdose of Camphor. T. B. Greenley.
39 Some Obstetrical Experiences. Charles W. Aitkin.

American Gynecological and Obstetrical Journal (N. Y.), August.

40 *Utility of a Certain Chart for the Determination of Pelvic Asymmetry from a simple Method of External Pelvimetry. Philander A. Harris.
41 Demonstration of Casts Used in Obstetric and Gynecologic Teaching. J. Clarence Webster.
42 Cyst of the Abdominal Wall: Report of a Case. L. J. Hammond.
43 Spontaneous Rupture of the Uterus. Walter V. Woods.
44 *Traumatisms of the Bladder and Urethra During Labor, and their Sequelæ. Gustav Kolischer.
45 *Chronic Inversion of the Uterus: Some Remarks on its Diagnosis and Treatment. L. W. Atlee.
46 *Treatment of Gall-Stone. S. C. Gordon.

Occidental Medical Times (San Francisco) August.

47 The Plague—Thirteen Cases. W. H. Kellogg and J. J. Kinyoun.
48 The Plague in Chinatown. W. G. Hay.
49 Examination of the Blood as an Aid in Surgical Diagnosis. Wallace I. Terry.
50 The Proper Time to Begin the Treatment of Cross Eyes. Vard H. Hulen.

International Medical Magazine (N. Y.), August.

51 *Contribution to the Therapy of Encephalocele. Carl Beck.
52 *Plea for a More Rational Prognosis in Cardiac Affections. J. J. Morrissey.
53 The Treatment of Cancer of the Stomach. Boardman Reed.
54 The Detection and Estimation of Sugar in Urine. (To be continued.) A Robin.
55 The Treatment of Hay-Fever. E. B. Gleason.

56 Rectal Disorders of Children. Samuel G. Gant.
57 Extrauterine Pregnancy: Its Causes, Diagnosis and Treatment. John C. Hirst.
58 A Short Discussion of Acute Biliary Colic. Guthrie McConnell.

The Post-Graduate (N. Y.), August.

59 Sarcoma of the Testicle. James Pedersen.
60 Some Neurologic Notes. Philip Meirowitz.
61 A Case of Spontaneous Intraperitoneal Rupture of a Pelvic Abscess. A. Brothers.
62 Notes from the Clinics. Drs. Combes, Torek, and Lusk.

Chicago Medical Recorder, August.

63 Latent Infection and Subinfection, and on the Etiology of Hemochromatosis and Pernicious Anemia. J. George Adami.
64 *Asexualization as a Possible Prophylactic of the Increase of Crime, Idiocy, and Insanity. Daniel R. Brower.
65 *Affections of the Kidney in Relation to Pregnancy. J. Clarence Webster.
66 The Eyes and Ears of Employees of Transportation Companies. Frank Allport.
67 *Treatment of the Opium Habit by the Bromid Method. Archibald Church.
68 A Case of Congenital Goiter and Diaphragmatic Hernia. Isaac I. Abt.
69 The Condition of the Mouth and Upper Air-Passages in Febrile Diseases. Paul Chester.
70 Gude's Pepto Mangan—The Uses and Effects of Gude's Manganiferous Iron Peptone. Julius Heitzmann.

Canada Lancet (Toronto), August.

71 Acute Mastoid Suppuration with Presentation of Cases. Perry G. Goldsmith.
72 A Case of Ankylosis following Injury. J. T. Clark.
73 A Case of Incarcerated Ovary. Horace C. Wrinch.

Cleveland Medical Journal, August.

74 *Subphrenic Abscess Following Appendicitis. J. F. Baldwin.
75 *Tuberculin Reaction. G. W. Moorehouse.
76 Some Observations on Abortion. Walter R. Lincoln.
77 Gall-stones. Dudley P. Allen.
78 Symptomatologic Diagnosis of Valvular Obstipation. Thomas C. Martin.

Medical Herald (St. Joseph, Mo.), August.

79 Practical and Microscopic Notes on the Endometrium. Byron Robinson.
80 Pterygia, their Pathology and Treatment. M. F. Weymann.
81 How to be Ethical. E. A. Mendell.
82 Neurasthenia. Clinton E. Sapp.
83 A Clinical Study of the Analgesic Action of Aspirin. R. Weil.
84 The Treatment of Catarrhal Conjunctivitis. Milton P. Creel.

University Medical Magazine (Philadelphia), August.

85* A Case of Pneumonomycosis due to the Aspergillus Fumigatus. Leonard Pearson and Mazyck P. Ravenel.
86 Some Personal Observations on the Plague. H. M. Miller.
87 Perichondritis of the Larynx in Typhoid Fever. M. Howard Fussell.
88 Malignant Precocious Syphilis. H. M. Christian.
89 A Case of Migraine with Aphasia and Numbness in one Arm. Samuel McC. Hamill.

Pennsylvania Medical Journal, August.

90 Medical Education, Past and Present. Henry Beates, Jr.
91 Some Remarks on Typhoid Fever and the Typhoid Bacillus. C. W. Coulter.
92 Report of Eighteen Cases of Labor with Comments and Suggestions. L. B. Kline.
93 Reflex Phenomena of Inguinal Hernia. Evan O. Kane.
94 Report of a Case of Injury of the Head. G. W. Guthrie.
95 The Tongue as an Index in Disease. J. F. Davis.
96 Typhoid Fever with Perforation—Operation—Recovery. I. J. Moyer.

Chicago Clinic, August.

97 Case of Acute Sero-Fibrinous Pericarditis. J. H. Hoelscher.
98 *When to Operate in Appendicitis and Why. J. B. Murphy.
99 *Unna's Dressing; A Treatment for Chronic Ulcers of the Leg. R. S. Michel.
100 Brain Tumor—Case Report. Francis R. Sherwood.
101 Hysterical Amblyopia. Frank A. Philipps.
102 An Anatomical Lecture. W. T. Eckley.
103 Intubation and Tracheotomy. Aime Paul Heineck.

Southern California Practitioner, August.

104 Meningitis. H. G. Brainerd.
105 Nursing a Profession. F. T. Bicknell.
106 Appendicitis, with Tabulated Report of Fifty Consecutive Operations without a Death. W. W. Beckett.
107 Organic Cardiac Disease. Geo. L. Cole.
108 A Case of Cholera Morbus. Lincoln Rogers.
109 Some Physiologic Changes in Refractive Cases. Wm. S. Fowler.

Colorado Medical Journal, July.

110* Modes of Infection. E. P. Hershey.
111* Problems of Diagnosis of Initial Syphilitic Lesions. Will B. Davis.
112* Bacteriology of Syphilis. W. C. Mitchell.
113* Cutaneous Manifestations of Syphilis. J. M. Blaine.
114* Ocular Manifestations of Syphilis. Edward Jackson.
115* Tertiary Manifestations of Syphilis of the Ear. P. F. Gildea.
116* Syphilis of the Throat. E. P. Gallaher.
117* Bone and Joint Syphilis. W. W. Grant.
118 Injuries to the Eye from Accidents in the Mine. Continued.) Melville Black.

Medical Sentinel (Portland, Ore.), August.

119 Notes on Vaginal or Kolpo-Hysterectomy. W. F. McNutt.
120 A Crushable Button as an Aid to Suturing in Intestinal Anastomosis. R. C. Coffey.

Austin Flint Medical Journal (Mason City, Iowa), August 15.

121* The Sound of Muscular Contraction and the Stethoscope, a Non-roaring Instrument, and Some Observations on Sound Conduction through the Body. Walter E. Scott.

Alabama Medical Journal, August.

122* Address of Chairman of Section of Obstetrics and Diseases of Women of the American Medical Association. W. E. B. Davis.
123 Opiates and Ethics. Barton W. Stone.
124 Nosophen and Antinosine in the Treatment of Diseases of the Nose, Throat and Ear. Edwin Pynchon.
125 A Point of View in Therapeutics. Thos. D. Parke.
126 The Pathogenesis of Malaria and Some Remarks on its Manifestation. R. C. Bankston.

Therapeutic Gazette (Detroit, Mich.), August 15.

127* Treatment of Empyema. Edward Martin.
128 A Case of Anthrax Successfully Treated by Local Injections of Pure Carbolic Acid. W. E. Fisher.
129 A Third Case of Aortic Aneurysm Treated by Electrolysis. H. A. Hare.
130* The Treatment of Hemoptysis in Phthisis. J. E. Frazer.
131 The Abortive Treatment of Bubo. H. M. Christian.
132* Heroin as an Analgesic—A Report of Fifty Administrations of in the Howard Hospital. Samuel H. Brown and Erie D. Thompkins.

The Southern Medical Journal (La Grange, N. C.), July.

133 Clinical Aspect of Diarrhea Incident to the Second Summer of Infancy. J. W. P. Smithwick.
134 The Doctor in his Medical Visits. J. L. Wolfe.
135 Clinical Aspect of Erysipelas. J. W. P. Smithwick.

AMERICAN.

1. **Military Surgery.**—Borden analyzes the statistics as to wounds of the neck, trunk and extremities. He thinks the mortality from injuries to the head, face and neck is not reduced since the use of modern missiles, but that the wounds of the abdomen and thorax show a somewhat diminished mortality, though still serious. In the wounds of the extremities the small-caliber bullet shows itself a humane weapon and here the aseptic and antiseptic methods have produced their best results. In his general conclusions he thinks that the small-caliber rifle is not a humane weapon as far as its death-dealing effects are concerned, though it may be so considered as far as the effects of its projectile on those not immediately killed are concerned, and conservative treatment has been a most potent factor in the saving of life and limb. Operations on the field or at field hospitals should be restricted to cases of imperative necessity while the permanent and base hospitals should receive the wounded as soon as possible and have every appliance for their relief. Military surgery does not differ from ordinary surgery excepting in locality and environment and the greater number of special injuries, gunshot wounds, etc.

3. **Psychoses of the Menopause.**—Chapin finds from his study and experience that while the menopause may be a period of stress, it is not properly the cause of insanity excepting in cases with heredity or previous attacks. Women who become insane at this period are as a rule neurotic or have a psychopathic heredity or history. Many approach this period with groundless apprehensions and in this sense it may be somewhat more of a dangerous epoch, but we should discourage these fears as far as possible.

4. **Koplik's Spots.**—After a discussion of the subject and reported cases Hirsh concludes: 1. An eruption limited to the buccal and labial mucous membranes and characterized by the presence of an irregular red spot with a bluish-white center, is always present in beginning measles. 2. These spots are present from twelve hours to five days before the cutaneous outbreak. 3. The number of these spots bears no relation to the severity of the attack. 4. These spots will be found in no other condition of health or disease.

6. **Physical Diagnosis of the Stomach and Viscera.**—The methods of examination in cases of disease or abnormalities of

the stomach and associated organs are described here by Loveland, who illustrates by diagrams some of the conditions he has observed and diagnosed. He takes up the various methods of physical examination separately, and of inspection general and local, the temperature, percussion, auscultation, etc., and thinks that we can determine the shape, size, location, presence, and in many cases the character of tumefaction, if such exists, and also the sensitiveness on pressure. This information may be secured in relation to stomach, liver, spleen, or kidneys by purely physical methods, and when we have the opportunity to add to this the history and symptoms, and in selected cases the chemical analysis of the contents of the stomach, and urine, and examination of the blood, in addition to the clinical appearances, there will be very few cases in which any serious doubt as to the exact diagnosis will remain long in our minds. Yet, in the face of some very perplexing problem in diagnosis, we may console ourselves with the fact that on rare occasions, cases occur so negative in all the signs, both physical and clinical, that they will defy the diagnostic ability of the most experienced. Such consolation, however, should not be ours until we have gone so thoroughly into the case as to leave nothing undone which might add to our knowledge of that particular condition.

7. **The Roentgen Rays.**—The errors that are possible with the Roentgen rays as a means of diagnosis are discussed by Beck, who calls attention to the fact that the trouble is not in the pictures or skiagraphs produced, which it must be remembered are only silhouettes or shadows, but in the interpretation of them by the unskilled or careless. He calls attention to the importance of knowledge of minute anatomical details, illustrating it by the trigonum tarsi, a bone which is present in 7 or 8 per cent. of cases, but which is sometimes mistaken for fracture and has caused some medicolegal complications. The special trouble with the skiagraph will be in regard to joints and the more complicated the joint, the more complex the picture. Other things which may produce difficulties in diagnosis are callus formations, the recognition of the union of the joint in the growth, diaphyses and epiphyses and the location of foreign bodies.

8. **Tubercle Bacilli in the Nose.**—Jones has examined a number of cases of tuberculous and other patients, and finds that virulent tubercle bacilli are to be found in the nasal cavities of healthy persons, but not so frequently as in those who have the care of the tuberculous. His studies show the danger from inhalation of dust, especially in localities where the tubercle bacilli are liable to be given out.

10. **Health Resorts.**—The points of special importance to be known in regard to health resorts are described by Otis, who takes up the plan suggested by Dr. Phillips, of the United States Weather Bureau, as a simple and plain but satisfactory method of giving the facts in regard to the climate of any region. It includes the questions of temperature, humidity, precipitation, direction and force of winds and the averages as to clear and rainy weather. Among other things he mentions the characteristics of the locality, whether wooded, hilly or undulating country, the character of the soil and the condition of artificial essentials, such as lodgings, water-supply, protection from contagious diseases, amusements, diversions, etc.

12. **Carbolic Acid.**—Phillips reports further results in the use of pure carbolic acid in the treatment of mastoiditis and chronic suppuration of the middle ear, in all of which he used it with beneficial effects. In none was there any inconvenient or unfavorable symptoms after following it with alcohol as mentioned in his former article. He also quotes notes from Parker, house surgeon to the Manhattan Eye and Ear Hospital, giving similarly favorable experiences.

14. **Exstrophy of the Bladder.**—Beck describes an autoplastic method for the restoration of the retentive powers of the bladder in congenital exstrophy by an anterior muscular wall. In cases where the flap operation is impracticable he takes the recti muscles, incises them along their internal margin to the extent of a little less than one-half their thickness and forms flaps of the same. After uniting the walls with thin iodoform-silk sutures the reflected muscular flaps are united above them, thus producing a small but virtually normal bladder, protected by a firm muscular layer, which is likely to distend later on. Further observations of the case are promised in the future.

18. **Laryngitis and Asthma.**—Glasgow reasons that asthma is due to a reflex irritation in the upper portion of the respiratory tract, and according to his observations the interarytenoidal region seems to be the most frequent site of the irritation. This is due in many cases to primary laryngitis and the causation of asthma is therefore laryngeal rather than nasal in these cases. Four cases are reported illustrating his views. He thinks that we need to use constitutional as well as local measures in this condition since the latter alone are generally not sufficient to incite respiratory spasms.

19. **Suprarenal Extract.**—The striking results from the use of suprarenal extract and its great value in nasal affections are apparently not entirely without corresponding inconveniences. Hopkins shows where secondary hemorrhage has been produced in his own practice and in those of many others when they have not applied intranasal packing. The powerful stimulation to contraction does not suffice to prevent indefinitely but only to delay the paralytic stage that follows. He does not offer these facts as an argument against the use of suprarenal extract but only to call attention to some points of danger that can be avoided by the easy recourse to packing after its use.

22. **Hysterectomy for Fibroids.**—Davenport reports two cases of operation for fibroids with later death of patients. The prominent feature of the two cases was the size of the tumor, but there are other dangers which he mentions as not less serious. In looking over his cases for hysterectomy for fibroids, he finds in his last 100 abdominal operations 19, of which these two only were fatal. He had in his 19 cases, 2 cases of malignant degeneration, 3 of anemic necrosis, one of the latter being malignant as well, thus making 6 altogether of the 19 where life was threatened. With these possibilities in such proportion he thinks that any cases where symptoms occur which interfere with the patient's enjoyment of life, operation should be advised, though not universally in fibroid, many of these causing so little inconvenience and growing so slowly that this is not indicated. Many cases also offer other objections, such as interference with child-birth, etc., and where the patient desires it, he thinks we should not hesitate.

23. **Hysterectomy for Myoma in America.**—Cushing reviews the contributions to gynecologic surgery made in this country with special reference to operations on the uterus and sums up the changes in the methods as follows: Entire abandonment of extra-abdominal treatment of the stump, wide trial and substantial rejection of vaginal hysterectomy as an operation of election in cases of myoma and salpingitis, the establishment of indications for the retention of cervix uteri as compared with total extirpation, the adoption of a universal method by most operators, the disuse of drainage wherever possible and the common recourse to operation in small hospitals by the local surgeons, which has its disadvantages since the skill and experience of some of these are not equal to their zeal. He gives the indications for total hysterectomy as compared with leaving a portion or the whole of the cervix which is generally the better course. 1. It makes the operation shorter and easier, there is less chance of hemorrhage during operation and so much cellular tissue is not opened for the oozing and decomposition of the blood. 2. There is somewhat less chance of infection of the wound where only the small cervical canal is cut across and instantly closed by the double tenacula than when the whole vault of the vagina is opened. 3. The vaginal portion is a seat of sexual feeling, and if it is present the patient does not feel as much mutilated as when it is gone. 4. The lower parts of the broad ligaments with the cervix, forms a better support to the pelvic contents than does the simple union of the vault of the vagina. Total hysterectomy should be performed; 1, when the cervix is enlarged and diseased; 2, when it is suppurating or septic; 3, when there is no suspicion of malignant disease, and 4, when vaginal drainage appears desirable.

24. **Perineal Tears.**—After first noticing the causes of these and the impossibility of always avoiding them, Boland sug-

gests immediate operation and gives his method. He thinks the use of the head mirror a valuable adjunct in the operation.

25. **Cottage Sanatoria.**—Klebs calls attention to the value of the open-air and cottage treatment of tuberculosis and gives what he considers a model plan of an institution of the kind.

28. **Mastoiditis.**—It is often said that the only rational means of aborting acute inflammation or mastoiditis is by the use of dry or moist heat. McKernon condemns this view, showing by cases in his practice that it is not effective. On the other hand he prefers the use of cold by the ice coil applied snugly over the process, with free purgatives administered; the canal irrigated frequently with warm bichlorid solution and the patient kept on a fluid diet. The use of moist heat may seem to diminish or stop the pain, but it does so at the expense of softening and undermining the tissues beneath it and thus advancing the disease.

29. **Spinal Analgesia and Labor.**—Stimulated by the reports of the surgical use of spinal analgesia by Tuffier, Marx has used the same method in labor with remarkably good effects in the cases in which it was employed. The patients were delivered without any pain or any knowledge of it, for they lose consciousness of pain when the injections are made thoroughly and successfully. He does not prophesy as regards the future utility of this means, but apprehends no danger from its employment. Whether any remote dangers will follow the use of cocain when applied, further experience will have to show. He suggests the use of this method in cases of prolonged and tedious labor, as anesthesia in this form does not at all interfere with the natural course.

30. **Symptomatology of Consumption.**—The first early symptoms of pulmonary tuberculosis are rarely significant to the patient with lung trouble, according to Lyle. If the temperature was taken oftener we should recognize many more cases. The different forms of consumption, acute, cascus, fibroid, etc., and their symptoms are noticed in detail.

32. **Fractures.**—The average results of treatment, Manley says, are excellent, but while authors are clear as to how we should treat fractured bones, they say but little of the limb. The limb should first be wholly wrapped in cotton wadding and should be supported laterally. He does not believe in the use of the bandage over the surface of the limb immediately after the fracture and the less splinting we apply over the limb which is the seat of diminished vitality the better. The first principle is to put the limb in a comfortable position and we should discard every sort of fixation until we feel sure of survival of the limb. In every form of fracture involving the shafts of the long bones or joints of the extremities our first and most important concern is the preservation of the circulation. In open fractures, after rendering the parts aseptic, moderate tamponade with gauze, with moderate pressure will generally suffice, and if the larger arteries are lacerated a tourniquet properly adjusted is to be relied on. The Esmarch bandage should not be indiscriminately employed over more than two hours. In so-called simple fracture the arterial trunks may be seriously injured, threatening the vitality of the parts, and we should place the limb in such a position as to best favor the establishment of circulation. The preservation of vitality of the part without regard to the condition of the joint is most important. Splints and bandages must be applied in the case of arterial thrombosis until we are sure that the circulation is turning toward normal. In the case of dry gangrene there is no haste to amputate until the nature of the processes are thoroughly defined. As there are good reasons to believe that the union of fractured bones is sometimes delayed, or even wholly arrested, by premature or too rigid adjustment in fixative apparatuses, or in consequence of too long employment, caution should be observed not to unduly constrict the circulation by any sort of mechancial appliance; rather, on the contrary, it is probable that in not an inconsiderable number of fracture cases the circulation of the limb is favored, the nutrition improved, reparative osteogenesis hastened and perfected by occasional moderate motion, massage, and only such adjustment as will provide support alone to the limb, without simultaneously exerting too much pressure.

37. **The Office of Motherhood.**—Mark thinks that no child should be born undesignedly, as is too often the case at the present time, and that great damage is done by too much child-bearing by women. He lays stress on the importance of maternal impressions and especial care during pregnancy to see that all the conditions and environments are the most favorable possible.

40. See abstract in THE JOURNAL, xxxiv, p. 1339.

44. **Vesical and Urethral Traumatism During Labor.**—This paper does not consider the major injuries of the bladder and urethra, but only those cases in which no external wound is produced. The urethra is injured during labor by direct bruising. The direct consequence is hemorrhage of the mucous membrane, producing retention and tenesmus, requiring the use of the catheter. The catheter should be straight, with a very slight curve at its vesical end. The eye should be situated in the center and the tip be carefully polished. The ordinary female catheter is liable to do harm. If the suffusion in the urethral wall is not reabsorbed, but becomes organized, the subsequent shrinkage of the connective tissue may produce quite extensive strictures, which can be removed only by urethrotomy. All urethral lesions caused by squeezing are most likely to occur in cases of simple flat pelvis. The urethra may become kinked and double up. Another variety occurs if only the urethral wall is carried downward; this is most likely to occur in the forcible forceps operation, which drags down the urethra, paralyzes the sphincter and produces incontinence even after involution is complete. Traumatisms of the bladder may be divided into two groups: traumatic desquamative catarrh and dislocations. By studying a great many cases, Kolischer has been able to prove that there is always a pronounced edema in the bladder during labor, favoring desquamation through mechanical injuries. Hemorrhages may occur from frequent pressure and the epithelium is then thrown off. Such losses of the epithelium cause the patient the sensation of heaviness and soreness and tenesmus; diagnosis of cystitis is often made and treatment with caustics or astringents is employed to the patient's injury. Traumatic dislocations are caused by the descending fetal skull, which drags the bladder from its seat. It may be completely dislocated and in this case complete incontinence results. This may have a further effect, producing trouble in the ureters and dilatation. The only method of treating this complication is operative. The bladder must be dissected out, replaced in its normal region and secured there by sutures. These injuries usually follow forceps, and especially high forceps, operations, and furnish another reason for preferring the Breus axis traction forceps, which allows of more mobility of the head.

45. **Chronic Inversion of the Uterus.**—In Atlee's paper chronic uterine inversion is described and he shows that there are times more favorable than others for its replacement; that for each individual case some one particular method is most liable to be successful. He also shows the great difficulty that may be encountered in certain conditions in establishing a satisfactory diagnosis and reviews the procedures which have overcome this difficulty in the hands of the most experienced men.

46. **Gall-Stones.**—From the case reported, Gordon concludes that an operation is indicated after it is well established by repeated attacks that gall-stones are present. Gall-stones may be present in the gall-bladder without giving rise to colic, but are the cause of more or less digestive disorders and impairment of general health. From his experience and the reports of others he is satisfied that many cases are better treated at the time of operation by closing the bladder, dropping it back into the cavity and closing the abdominal wound. Patients treated by drainage are often slow to recover and liable to be left with biliary fistula lasting for a long time. Great care should be used to cleanse the bladder before closing it, rendering it as nearly aseptic as possible. While gall-stones may occur after operation, he thinks they are no more liable to after closure than after drainage.

51. **Encephalocele.**—This condition occurring in the skull, which is analogous to spina bifida, is, as a rule, readily diag-

nosed and its prognosis is unfavorable if let alone. There are, however, some difficulties in its differentiation which are pointed out by Beck. Three cases are reported, in two of which operation was performed, with success in one, the other died of purulent meningitis. In the third case the tumor was gradually diminished and finally destroyed under pressure with large iodin-gauze collodion dressings. He thinks that the prognosis is improved with aseptic methods and that the Roentgen rays have added a further element of security in the diagnosis which also improves the therapy of the condition.

52. **Cardiac Disease.**—Morrissey is opposed to gloomy prognoses in the case of heart murmur and advises the practitioner to consider the condition of the cardiac walls, the probable length of time the lesion has existed, the presence of dilatation or hypertrophy, and also the occupation and temperament of the patient. Murmurs do not invariably mean endocarditis and when a man has one of which he is unconscious, where the heart is acting perfectly, and his work is not of a laborious character, and he is past the period where rheumatic infection is liable to be stimulated into renewed activity, he is not to be regarded as a bad risk for insurance, or to be refused a policy commensurate with the degree of cardiac inefficiency. Increased presystolic murmur does not always indicate a mitral stenosis, nor has so-called musical apex murmur any significance. From the standpoint of longevity, aortic stenosis is a favorable lesion and the writer does not agree with some authors who say that it occurs mostly after middle life. He says, never hesitate to ask a patient to return for further observation. There are more snap diagnoses made in the study of cardiac disease than of any other disease of the body.

64. **Asexualization.**—Brower reviews the statistics of the increase of crime, insanity, idiocy and their ratio with that of the general population. He points out how much of this is due to the continuation of bad heredity. The remedy he suggests is asexualization of criminals and defectives, which he thinks is worthy of consideration.

65. Published in THE JOURNAL, vol. xxxiv, p. 959.

67. See abstract in THE JOURNAL, vol. xxxiv, p. 1335.

74. **Subphrenic Abscess Following Appendicitis.**—Baldwin reviews two cases of subphrenic abscess, accurately diagnosed and treated by operation with success. They are, he thinks, the forty-fourth and forty-fifth cases of this complication that have been reported. In the first case the appendix was behind the cecum and he was inclined to believe that the infection extended downward and behind the peritoneum; the entire abscess was therefore retroperitoneal. When the appendix is free in the peritoneal cavity one would expect to find the intraperitoneal form of infection, it being carried by peritoneal currents from the region of the appendix to the diaphragm. His second case was of this variety. The diagnosis in this case must be based on the continuance of the infected symptoms after removal of the appendix or subsidence of local inflammatory symptoms. A careful examination should reveal some tenderness in the region of the liver with depression on its lower border, and pain in the right shoulder has been noticed in a number of cases, and is an important factor. Hiccough is rather a common symptom and an important fact is that frequently in these cases the abscess cavity contains gas as well as pus and this may render the diagnosis somewhat more simple. In these cases the previous history of the patient pointing to abdominal, rather than to thoracic, trouble, normal vascular murmur and fremitus at the apex with a sharp line of differentiation from the amphoric respiration found below and the descent of the line of normal fremitus with very slight displacement of the cardiac apex and slight bulging of the intercostal spaces without chest-wall immobility are the points noticed by Leyden as important. If the disease is not recognized and not surgically treated the mortality is large, but when it is recognized the mortality should not exceed 50 per cent. or less. He prefers to make an incision well back on the right side so as to strike the abscess directly, if extraperitoneal, or through adhesions if time has permitted their formation. If no adhesions are found, this will best allow drainage and protection of the general cavity. While most of these abscesses can be reached, as in his two cases, by going below the ribs entirely, it might be necessary in some cases to resect the tenth, ninth or eighth rib to reach the abscess more directly. The danger of wounding the pleura must not be overlooked, therefore he prefers the infracostal incision.

75. **Tuberculin Reaction.**—Moorehouse reports cases with temperature curves and a number of tuberculin injections in patients in whom the diagnosis was difficult. He thinks the measure is justifiable in such cases. Of the 13 positive reactions, 2 had a temperature of 104 F. or above; 8, 103 or 104 F.; 1, 102 or 103 F.; 2, 101 or 102 F. The time of high temperature varied from eight to forty-eight hours after the injection. Tuberculin was given to a number of patients in which there was no reaction, but they are not reported.

85. **Pneumonomycosis.**—Pearson and Ravenel report a case of pneumonomycosis which was attributed to the aspergillus fumigatus. This mold forms no toxins, but causes trouble mechanically by traumatism and causing necrosis of the cells. In this case, which occurred in a cow, they consider it one of primary aspergillosis because of the predominance of this fungus in the nodules and the lack of other lesions which could cause death. They consider the case of interest as the only one of this character ever observed in America.

98. This article has appeared elsewhere. See THE JOURNAL, vol. xxxiv, p. 1651.

99. **Unna's Dressing.**—Unna's paint or dressing is highly recommended by Michel for chronic ulceration of the leg. It is prepared thus: Take of water and glycerin, each 10 parts, and of gelatin and white oxid of zinc, finely powdered, each 4 parts. The gelatin should be of the best quality. Dissolve the gelatin in water by means of the water-bath. While hot add the glycerin and finally the oxid of zinc, stirring vigorously and continuously until cold. Before application the leg should be washed thoroughly with soap and water, dried and rubbed with alcohol. When the paint is rendered fluid by heat it is applied to the leg with a paint-brush, extending the dressing from a little below the knee down nearly to the ankle. After the leg has been thoroughly painted, an ordinary bandage is applied, which must be put on without wrinkles or reverses, and necessarily, therefore, in parts. Above this another layer of paint is applied and so on. The dressing should be from three to five bandages in thickness. It should be worn from four to eight weeks, though it may need more frequent change. This plan of treatment is applicable to all ulcers of the leg and can be made to answer other indications than those here mentioned.

110.—See abstract in THE JOURNAL of August 25, p. 514.

111.—Ibid.

112.—Ibid.

113.—Ibid.

114.—Ibid.

115.—Ibid., September 1, p. 577.

116.—Ibid.

117.—Ibid.

121. **Non-Roaring Stethoscope.**—Scott describes his experiments to eliminate the roaring sound heard in the stethoscope. He has constructed a non-roaring monaural stethoscope which consists of a bell with a spring, the bell composed of glass and metal which does not allow the sounds of muscular contraction to be conveyed from the fingers and which can be applied easily to the chest wall or other parts of the body. He has found it especially advantageous in examining children or small areas.

122.—This article appeared in THE JOURNAL of July 21, p. 131.

127.—See abstract in THE JOURNAL, xxxiv, p. 1197.

130. **Hemoptysis.**—The author divides the varieties of blood-spitting into two large clinical classes: pure or large hemorrhages, and, impure or minor hemorrhages. The conditions to be fulfilled in every form of treatment are to lessen blood-pressure and to increase resistance at the bleeding-point. For while the venous pressure is lower than the arterial, it is a good deal higher than it would be had the total caliber of the venous been greater than that of the arterial vessels,

which is not the case, as shown by Winslow, Ewart, Santorini and Haller. Ergot also acts only beneficially by lowering the venous pressure and that it does act beneficially sometimes and sometimes not in hemoptysis is a known fact. The arterioles and veins also act similarly as regards the effect on blood-pressure by ergot. When the patient is first taken ill the pulse is full and rapid, but this depends somewhat on the temperament of the patient; if not nervous, it may be slow and steady with no rising temperature, and these cases often do well without any special treatment. He asks how we are to lower a lateral pressure on the blood-vessels. There are only two ways of doing this in the pulmonary vessels: By acting on the heart-beat or on the vascular approaches to the wounded vessel. An injection of morphin with ergot is often sufficient to stop the bleeding. The next thing is to prevent recurrence and Frazer considers that further injections may be required. Rest in bed is necessary and the length of time is important, too little is often given. The diet should be light and cool and he is careful to prohibit any purgatives while the heart's action is excited. Discomfort is not usually felt in this regard for three or four days, and then oil or glycerin enemata are sufficient. The cough may be troublesome, but if not controlled by injections, it may yield to chloral or codein. Pain in the chest is usually met by counter-irritation. Vomiting may occur, but seldom requires treatment; if persistent it generally yields to one-twelfth grain of cocain. If the hemorrhage is purely arterial, ergot is contraindicated. The other drugs and agents mentioned are aconite, which he has found very useful, and digitalis in mild cases. The ice-bag has a slight effect, hardly worth the trouble it gives. Turpentin, sulphuric, tannic and gallic acid, etc., are useless.

132. **Heroin.**—According to Brown and Tompkins' experiments, in which they gave this drug in thirty-four cases for relief of pain, and as a hypnotic in sixteen, it would appear that heroin is a safe, reliable analgesic, which can be repeated if necessary without producing habit or doing any harm.

FOREIGN.

The Lancet, August 18.

Physiologic and Therapeutic Action of Digitalis. T. LAUDER BRUNTON.—The action of digitalis has long been known and is explained by Brunton as partly due to its effects on the inhibiting center of the circulation and in part also to its contraction of the arterioles, raising the blood-pressure in the general circulation. The diuresis which digitalis produces is probably due to increased pressure within the glomeruli of the kidneys. The chemical composition of the drug is complex; the chief components, according to Schmiedeberg, are digitoxin, digitalin, digitalein, digitonin, and digitin. The last two have so little physiologic action that they may be dismssed from consideration. The crystallized digitalin of Nativelle consists chiefly of digitoxin; the digitalin of Homolle and Quevenne consists chiefly of digitalin and the German digitalin consists chiefly of digitalein and digitonin. The action of these drugs appears to be nearly alike in kind, but differs in degree, digitoxin being far the strongest. Nativelle's digitalin is found by Widal to be eight or ten times stronger than amorphous digitalin, and in daily doses of from one to two milligrams slows the pulse, while from three to ten milligrams of Homolle's digitalin are required. The German digitalin may be given in doses three times as great as Homolle's, or ten times as great as that of Nativelle. The insoluble kinds of digitalin—Nativelle's and Homolle's—cause considerable local irritation when used subcutaneously and may even cause abscesses, though the solutions are perfectly sterile. Soluble digitalin may be used subcutaneously in the form of a 1 per cent. solution in equal parts of glycerin and water, 1 to 2 c.c. being injected two or three times a day. Digitalin and its active principles regulate the heart's action, assist failing circulation and act as diuretics. In cases of palpitation and functional irregularities small doses, such as 10 minims of the tincture, are sometimes very useful. This is well marked in cases of palpitation brought on by physical strain, anxiety or worry. Where stomach irritation has produced it in a reflex way, better results are obtained by bismuth and rhubarb. In cases of aortic regurgitation with good compensation digitalin is quite unnecessary and may be harmful. It is, however, of utmost service when the mitral valves become incompetent in consequence of damage to the valves themselves or dilatation of the cardiac orifices from weakness after infectious diseases or from failure of a hypertrophy consequent upon aortic regurgitation or renal disease. It may be useful, moreover, before the heart has dilated so as to render the mitral valves incompetent, by lessening the ventricular regurgitation during diastole, and thus diminishing the amount of blood which can regurgitate. By its action on the arterioles it also aids in lessening the flow. To get the best results in severe cases, the use of the drug should be associated with rest in bed and massage. In conclusion, he speaks in regard to the dangers of the drug in cases of fatty heart and very high tension. If we have fatty degeneration with normal muscular fibers of the arterioles, the resistance to cardiac contraction will be increased and the heart, already disabled, will be further embarrassed. In such cases we should simultaneously administer nitrites, such as nitroglycerin, nitro-erythrol or ethyl-nitrite, most commonly given in the form of spirit of nitrous ether. The same precaution should be adopted where the arterial tension is high and the heart is just beginning to fail, and in such cases it may be well to avoid digitalis altogether; but if it is given, the nitrites should accompany it and great attention should be given to the condition of the bowels and the liver.

Some Remarks on Cancer of the Breast. SKENE KEITH.—The three questions usually asked by the public in reference to cancer are: 1, is it curable? 2, is it hereditary? 3, is it curable by operation? Keith believes that cancer is increasing to a certain extent, but this is apparently magnified by the better knowledge of pathology and diagnosis. When we come to heredity the statistics are embarrassed by the fact that the public do not like to admit this element. It is most certainly curable, but not in every case, even in those apparently favorable to operation. The first thing to be decided is what is a cure. Here the unsatisfactory question of time comes in. If a patient died twenty years after the cancer of the breast had been removed, it could not be said positively that it would not have recurred had she lived long enough. Some have fixed the time at three years, after which a cure can be claimed, but Keith thinks this is too short and even five years would be the same. Every year, however, increases the chances of life. The time limit may be suitable for statistics, but it is not assurance to the patient. He remarks in regard to the statistics of operations that it is possible some of the operations of the past have not been done with sufficient care. He thinks the Halsted operation, from its severity, must have a certain amount of mortality in weak subjects, while the removal of the breast and axillary glands is an operation unaccompanied by any extraordinary risk to life. What is more important than the removal of one or both pectoral muscles is the removal of the superficial fat of the breasts. It has been shown of late that the lymphatics do pass freely into the superficial fat and it may be that if extra attention is paid to this part during the course of the extensive operations practiced by some, the improved results are due to this rather than to the free removal of muscle.

Australasian Medical Gazette, July 20.

The Effects of Migration from the Northern to the Southern Hemisphere. R. HUMPHREY MARTEN.—In this address the author gives his own observations and impressions regarding the difference between the native Australian and the native Englishman. In the Australians maturity comes earlier, they are energetic, muscular, and more inclined to be dark-complexioned than are the British islanders. With the early maturity he thinks there is probably an early senility. The Australian's teeth are extremely bad as a rule, and this is due, he thinks, to the large amount of butcher's meat consumed by them, but he comforts the Australian with the statement that, according to the latest French statistics, good teeth go with a high death-rate. In stature the Southerners are rather above the British standard. Their families are as large as in the northern hemisphere, and the majority of births occur in the corresponding seasons—not the same calendar

months. In regard to their diet, the Australians are the greatest meat-eaters in the world, and head the list in the amount of tea consumed per individual, except perhaps the Chinese. As a whole they are not a beer-drinking people, but prefer whisky, which he credits to the ease of transport. Beauty fades earlier and as they live at a higher pressure, the length of life will probably be affected. As regards diseases in Australia and Great Britain, if any practitioner were asked if there were any national disease peculiar to Australia he would at once answer hydatids, while rickets is almost unknown. Diphtheria, typhoid, etc., are as common as in Europe. Typhus fever, cholera and relapsing fevers have apparently never been imported. Pulmonary tuberculosis appears to be about one-half as frequent as in Europe. Scarlet fever is milder. Smallpox has never gained much footing, but he thinks it would be disastrous if it occurred, owing to the unvaccinated condition of many of the inhabitants. The Australian colonies have so far escaped hydrophobia. Rheumatic fever, according to his experience, is very rare, while rheumatoid arthritis is fairly common and there is a peculiar form of joint-trouble allied to chronic rheumatism which resembles arthritis, but is not permanent. Diabetes is about as common as in Europe; gout is rare. The cirrhotic variety of Bright's disease is about as frequent as in Europe. The Australians also have their share of summer complaints and a large amount of appendicitis. Bronchitis is not a common disease, but pleurisy and pneumonia are perhaps as common as in the colder North. In his opinion, heart disease is less frequent than in Europe, but this is probably to be explained by the fewer cases of acute rheumatism. There is nothing special in regard to nervous diseases, excepting the invasion of the brain by hydatids. Syphilis appears to run about the same course as elsewhere. It has struck him that cases of ectopic pregnancy occur more frequently than in England and to go without seeing one in his practice for six months is a rarity. Gynecologic complaints are, he thinks, dependent largely on the customs of the country and they are more inclined to favor the American and continental schools than the British. Eye, ear and nose diseases furnish magnificent fields for the specialist.

Archives Generales de Med. (Paris), July.

Hemorrhages in the Suprarenal Capsules. F. ARNAUD.—The hemorrhage did not produce any appreciable symptoms in more than half of the eighty cases analyzed in this review. In 6.3 per cent. the capsular hemorrhage became manifest as a large hematoma or abdominal tumor, and even in these cases the exact diagnosis was made only once during life. The syndrome of the peritoneal type existed in 7.59 per cent. There was laceration of the capsule in all, and a hemorrhagic exudation into the peritoneum in four, with perforation in one. Symptoms of capsular insufficiency were evident in 10 and of suprarenal apoplexy in 19 per cent. The latter was characterized by sudden death in a few hours to three days, sometimes accompanied by nervous symptoms, such as delirium, convulsions, coma, hypothermia, etc.

Hemorrhage in the Cerebellum or Peduncles. R. TOUCHE.—Thirteen cases are described in full, and in nearly all the autopsy findings are given. In one, a healthy woman of 66, the classic cerebellar syndrome appeared, vertigo, etc., falling always from the left side. No lesion was found in the cerebellum, merely a hemorrhagic focus with destruction of tissue, in the left middle peduncle of the cerebellum. Another case confirmed the possibility of sudden blindness from hemorrhage in the aqueduct of Sylvius. In another patient the head and eyes deviated to the right; she was eight days unconscious and had a tendency to roll out of the right side of the bed. The autopsy disclosed softening of the inferior surface of the left lobe of the cerebellum.

Malarial Infection from Plants. VINCENTE.—A boy of 9, at boarding school, and his brother, two years younger, at home in Paris, succumbed simultaneously to severe malarial infection, both isolated cases. Vincente, after much research, traced the infection to three large oleander trees which had been brought into the living-rooms of the residence at vacation time. The mother had contracted severe malarial infection several years before the birth of the children, and he attributes the present outbreak to the survival of the malarial germs on or in the plant tubs. The soil, warmth and constant moisture in these very large tubs combined to form a favorable culture-medium for germs. The plants in this instance were covered with innumerable plant-lice, which swarmed all over the room, on the furniture, clothes and skin of the inmates, and were even found in the drinking water. He is inclined to incriminate these insects and is now making a special study of them to determine the question.

Archives Orientales de Med. et de Chir. (Paris), July.

Cure of Malignant Ulcerations With Cynoglossum. TSACONAS.—About twenty months ago Tsaconas found in a monastery on Mount Athos a MS., dating from 1600, while referred to numerous cures of benign and malignant ulcerations obtained with the pulverized root of the cynoglossum applied externally. He at once sought opportunities to test this remedy, and now announces that with it he has cured five cases of epithelioma of the face in patients from 50 to 84 years of age. The photographs "before and after" show the complete disappearance of the neoplasms, with merely a small defect in some and complete restitution in others. The ulcerating surface is first cleansed with a solution of boric acid and then dusted thick with the powder twice in twenty-four hours, and covered with a cotton bandage. The cure was complete in five months in most cases, the extremes being four and eight months. Tsaconas uses the dried roots, blossoms and leaves of the cynoglossum. He also reports a number of simple ulcerations and even of moist gangrene after traumatism cured with the powder. Poulopoulos has successfully used it internally in doses of 1 to 2 gm. a day in seven cases of ulcus rondus and in several cases of cancer of the stomach, with material improvement.

Bulletin de l'Academie de Medecine (Paris), August 7.

Connection Between Genital Functions and Arsenic in Thyroid Gland. A. GAUTIER.—It has been demonstrated that iodin and arsenic are normally constant constituents of the thyroid gland, in which they are stored in the form of specific proteids. They have also been found in the organs of ectodermic origin, the brain, skin and its appendages, hair, nails, etc. Normal blood contains infinitesimal amounts, but the menstrual blood, except in the case of anemic subjects, contains such large amounts that almost the entire supply must be thus voided each month. This confirms the theories in regard to the close connection between the thyroid and the genital functions. In the female the surplus of the phosphorized nucleins of the thyroid gland and possibly of other glands, is periodically diverted to the genital organs, where it serves to nourish the fetus or is expelled in the menstrual discharge. In the male this elimination occurs through the skin and its appendages, in the shedding of the hair, beard, fur, horns, "nuptial plumes," etc. Women taking organic arsenic in the form of cacodylate find that the hair grows and the menses become regular, while on the other hand, nuns who keep their hair cropped close, note that the menses become irregular if the hair is cut during the molimen. The success of Brown Séquard's extract of the testes is due to the easily assimilated phosphorized principles which it contains, supplemented by the addition of the iodin and arsenic in the thyroid gland. If this gland has deteriorated, as in consumptive, myxedematous, goiterous and thyroidectomized persons, vitality languishes, the genital functions are affected, and the skin and brain degenerate. It seems to be evident that the organic phosphorus of the nucleins is indispensable to the functional activity of the cell-nuclei, but that it is the arsenic and iodin which impart to these nucleins and to other specific principles a superior activity which enables them to react on the entire organism, more especially on the skin, brain and organs of reproduction.

Regeneration of Bone-Marrow in the Dog. V. CORNIL.—Both marrow and bone grew again in the normal place after the tibia had been partially scraped out, thus reconstituting the bone, in three months after a preliminary phase of ossification in the marrow cavity. Bone-marrow isolated by removing the bone around it after amputation, first becomes ossified and then transformed into fibrous tissue. Transplanted marrow undergoes fibrous transformation without a previous stage

of ossification. This research confirms the temporary character of accidental ossification.

Sarcomatosis Cured With Sodium Cacodylate. PETRINI.—A patient, 40 years of age, was treated with sodium cacodylate as a last resort for diffuse sarcomatosis commencing on the pharynx. Seventy injections were made in all, 13 cg. being the daily maximum dose. One of the tumors was excised, which proved to be an embryonal, vasoformative-celled sarcoma, non-pigmented and non-melanic. All the lesions retrogressed to complete disappearance with a supplementary course of arsenical mineral water. In a second case, improvement was evident with similar treatment, but the general process was too far advanced to prevent the fatal termination.

Pathogenic Blastomycetes in Carcinoma. LEOPOLD.—Several hundred cases of carcinoma have been studied by Leopold with a special microscope, which keeps the section warm and moist. He found blastomycetes frequent, and was able to trace their development and obtain a pure culture in four cases. He also secured positive results in animals inoculated with them, particularly marked in one instance in which a rat was inoculated with a pure culture from a cancer on a female patient, and reiterates his assertion that the blastomycetes are factors in the etiology of carcinoma.

Presse Medicale (Paris), August 8.

Experimental Research on Thyroid Infection. H. ROGER AND M. GARNIER.—The Koch and Eberth bacilli and staphylococci were the micro-organisms studied. The experiments showed that intense infection—even if brief—induces cellular alterations, while protracted infection determines interstitial lesions. The entire gamut of visceral inflammations can be reproduced by injection of microbes into the thyroid arteries. Varying the dose or the virulence of the cultures it is possible to induce interstitial thyroiditis: hemorrhagic, with a lively leucocyte reaction and sclerosis, or parenchymatous, with acute necrosis and degeneration of the cells, and epithelial proliferation leading to neoplasia.

Diagnosis of Coronary Angina Pectoris. P. MERKLEN.—Angina pectoris of coronary origin is distinguished by retrosternal pains radiating into the cervicobrachial nerves, and distress. They appear as sudden attacks isolated, usually consecutive to unusual effort, sometimes to exposure to cold or violent emotion. There is no pain nor hyperesthesia during the intervals and its non-spontaneous character is an important aid in differentiation. It is a neuralgia and not a cardiac neuritis. The attack ceases under the influence of repose, the patient usually holding his breath to ensure absolute immobility.

Revue de Chirurgie (Paris), August 10.

Sebaceous Adenoma of the Face. G. CURTIS.—The writer classes sebaceous adenomata as simple and complicated, both benign. In the first the stroma is not altered, but in the second there is varying degeneration of the stroma and of the vessel-sheaths. In a case of the latter variety described and illustrated the tumor was of the size of two fists, with a broad base of fibrous tissue on which it was freely movable. The ulcerating, bleeding, fetid surface and the emaciation of the patient, a man over 56, suggested malignancy, but the adenoma had no deep prolongations and removal was simple.

Extraction of Nail from Bronchus With Magnet. GAREL.—A child with an iron nail 53 mm. long in the right bronchus was relieved by tracheotomy. A magnet was inserted in the opening, which attracted and removed the nail.

Osteoplastic Amputations. Z. SAMFIRESCU.—When a long bone has to be amputated in the shaft it is possible to make a diaphysial bone-stump which fulfills all the conditions of the trunk and can be placed immediately in the prothesis without the slightest remote inconvenience. The bone-stump thus obtained is solid and not sensitive to changes in temperature. The shaft is sawed across in three places, about as far apart as the bone is wide, the highest amputation on a level with the highest point of the incision in the soft parts. The small cylinder of bone beneath it is then removed, and the cylinder below this is sawed lengthwise in half, and one-half also removed. This leaves only the remaining half of the lower segment still hanging by the periosteum flap. It is brought up across the stump of the long shaft and held in place with a stitch in the bone on each side.

Revue Generale de Ophthalm. (Paris), July 31.

Periscopic Glasses. F. OSTWALT.—By taking photographs through the lenses, in similar conditions to those of the lens in relation to the eye, Ostwalt has discovered that judiciously selected menisci or planoconcave glasses are far preferable to the ordinary bispherical lenses for divergent glasses for distant vision. Instead of the biconcave, therefore, corresponding periscopic glasses should be prescribed, either meniscoid or planoconcave or asymmetrical biconcave. He gives a curve to guide the oculist in ordering divergent periscopic glasses and the manufacturer in making them. For convergent glasses the meniscus bulges too much to be practicable, particularly for patients after operation for cataract. But even in this case the symmetrical bispherical shape is not so favorable as the asymmetrical biconvex, which, with direct vision, gives the minimum of sphericity error, the front side having a radius of curvature six times larger than the other.

Berliner Klinische Wochenschrift, August 6.

Alterations of the Ganglion-Cells in Mental Diseases. E. MEYER.—The changes in the ganglion-cells in several groups of psychoses, with and without a clinically appreciable cause for the mental disturbances, were carefully studied. The same negative results were obtained in each, confirming the general experience that the ganglion-cell reacts in the same specific manner to irritations of all kinds, the alterations noted differing merely in the intensity and extent of the process, as can be determined with the present methods of research.

Idiopathic Transient Disturbance of Consciousness. PLACZEK.—The symptoms presented by persons resuscitated after being hanged, showing disturbances in the circulation of the cortex, were recalled by two cases recently observed by Placzek. In one—a healthy woman of 40 suddenly exclaimed: "I don't know what I am doing," acted strangely, forgot all the occurrences of the last twenty-four hours, with other symptoms of cortical disturbance, coinciding with the appearance of the menses. This condition gradually subsided, until, in the course of twenty-four hours, intense migraine appeared with subjective deafness, photophobia, etc. As the migraine passed off all the other symptoms vanished and they have never been noted since. Another similar case of abrupt change of character in a man subject to severe trigeminal neuralgia confirms the possibility of idiopathic, transient, isolated subdelirium in mentally sound individuals entirely free from any traces of hysteria, epilepsy or alcoholism.

Deutsche Medicinische Wochenschrift (Leipsic), August 9 and 16.

Blood-Pressure and Right-Handedness. A. HECHT AND L. LANGSTEIN.—Examination of sixty-three young men, mostly soldiers, showed that in 95 per cent. the arterial tension was from 5 to 20 mm. higher on the right side, if the subjects were right-handed, and on the left side if left-handed. In one instance a soldier, naturally left-handed, had learned to use his right hand, but the blood-pressure—higher by 10 mm. on the left side—betrayed his natural propensity. Examination of the blood-pressure may thus afford valuable information in certain criminal cases.

August 16.

Chronic Non-Membranous Diphtheritic Affection. E. NEISSER.—Five cases of a chronic affection of the upper air-passages are described, the patients being robust young maid-servants or waitresses. The symptoms vanish during the summer, but as cold weather approaches the voice becomes hoarse, the throat dry, the mucous membrane of the nasopharynx atrophied and covered with tenacious mucous and grayish-yellow crusts. In only two cases was there a previous history of diphtheria, but in all the diphtheria bacillus was found constantly, and in almost pure cultures. The syndrome suggests rhinitis fibrinosa, but differs in the site, the absence of any pseudo-membrane and the chronic character. There was nothing to indicate ozena, the accessory cavities were intact. Antidiphtheria serum did not seem to have any influence on the affection. In the patients with antecedent diphtheria the serum possessed marked antitoxic properties, equivalent to 2000 immunization units in one case.

Peculiar Symptom-Picture With a Carcinoma of the Stomach. R. SCHUETZ.—In the case described, the carcinoma at the pylorus has caused such extensive degeneration of the stomach walls that the organ was reduced to a perpendicular tube about 13 cm. long, its rigid walls practically merely a continuation of the esophagus. The atony of the latter produced slight dilatation above the cardia and temporary stagnation of the contents, but the sound traversed it without difficulty to the pylorus.

Muenchener Medicinische Wochenschrift, August 14.

Coating on the Tongue in Health and Disease. J. MUELLER.—Investigation of the coating on the tongue in health and disease shows that the organ is most frequently and noticeably coated in acute diseases, whether the digestive apparatus is primarily disordered or not. It is found much less frequently in chronic digestive affections; the proportion in chronic gastritis is even less than that noted in healthy persons. The leucocytes are always exceptionally numerous in the scrapings in case of carcinoma of the stomach and also of pulmonary tuberculosis. In all other conditions the coating differs only quantitatively in health and disease. Mueller attributes the increased coating in acute disease to the fact that the tongue is not mechanically cleansed of its thrown-off epithelium, as the patients eat and talk less than normally. Another reason is the desquamative catarrh which accompanies certain diseases. The coating is naturally thicker in persons in whom the filiform papillæ are most developed, and is absent on naturally smooth tongues, such as are frequently observed in elderly individuals.

Indications for Surgical Intervention With Ectopic Pregnancy. L. PROCHOWNICK.—The early mild or threatening symptoms are no guarantee of the future course of an extrauterine pregnancy. This depends on the location of the ovum, condition of the organ and secondary infection. An extensive experience has impressed Prochownick more and more with the conviction that the best and truest conservatism in these cases lies in early laparotomy. In case of gonorrheal antecedents intervention should be urged, and with even slight indications of temperature in rectum or vagina, all responsibility should be declined unless an operation is allowed. Only with early laparotomy is it possible to count upon restitution of the original conditions.

Suture of Common Carotid. F. SEGGEL.—An attempt at suicide by a man of 62 resulted in a slanting wound in the common carotid artery, 3 to 4 mm. in length, closed with a clot when received at the clinic an hour later. The artery was compressed with three forceps and three silk stitches taken in the walls, avoiding the intima, strengthened with three others as blood oozed when circulation was restored. The less extensive wound in the vein was also sutured and patient dismissed cured in a month.

Composing on the Typewriter. SEELIGMUELLER.—From the long association of the left half of the brain with the act of writing, some persons find it difficult to write articles requiring much thought on the typewriter. The ideas are accustomed to flow from the left brain out to the pen in the right hand, and efforts to use the left hand on the machine interfere with composition. Seeligmueller counteracts this tendency by first writing out a rough outline of his article with the pen and then elaborating this on the typewriter. In order to concentrate all his attention on his composition, he never punctuates nor uses capitals, but adds these as he revises. It detracts very little from the appearance of the "copy," but adds immensely to the facility of mental composition on the machine.

Therapeutisches Monatsheft (Berlin), August.

Medicinal Treatment of Neurasthenia. OTTO DORNBLUTH.—The writer regards the use of codein in neurasthenia as the greatest progress which the therapy of this affection has yet to record. It has a specific stimulating effect in overcoming morbid drowsiness when patients are compelled to keep continually at work. He has given it in small doses to overworked physicians, teachers, public officials, etc., and all have expressed the utmost gratitude for the relief and stimulating effect, which is not transient like that of the bromids, but lasts and even cures the majority of cases. He commences with .01 gm. three times a day and after four or five days increases to five or six times this amount, continuing with .02 gm. five times a day for four to six weeks, but suspending as improvement is evident. This specific stimulating influence is not due to the sedative effect; morphin and similar anodynes have none of it. He has found it equally effective in cases of psychic depression and melancholia. He considers remedies to improve the condition of the blood an important aid in the treatment of neurasthenia.

Therapie der Gegenwart (Berlin), August.

Influence of Anodynes on Gastric Secretions. F. RIEGEL.—The various anodynes and analgesics have been employed in gastric affections without much regard to their specific influence on the secretion of gastric juice. Riegel's tests have demonstrated that it is desirable in selecting a drug for the purpose to bear in mind that the belladonna preparations, and especially atropin, check the secretion of gastric juice almost completely, while morphin has exactly the opposite effect. Morphin, therefore, should be given in cases in which no injury is anticipated from considerable increase in the secretion of the gastric juice. On the other hand, when the secretion is already excessive, as is usual with ulcus, morphin is contraindicated, and one of the belladonna preparations will be found useful to diminish the over-secretion in addition to its analgesic effect.

Treatment of Ozena. F. KLEMPERER.—The base of all treatment of ozena is to keep the nasal passages absolutely clean. This deprives the affection of its chief evil features and is the only means of cure. Tepid salt solution is a good cleansing fluid. It is best applied with a nose pump, combined with preceding tamponing for an hour or so, and all night for each nostril in turn. The nose should be rinsed three times a day.

Cataplasms in Gonorrheal Joint Affection. A. FREUDENBERG.—The benefits attained in gonorrheal arthritis and tendovaginitis with hot cataplasms frequently renewed day and night, are extolled by Freudenberg, after eight years of experience, as truly remarkable. They obviate all danger of the ankylosis which is so common and early in these cases. He applies them to encircle the entire joint and extend several inches above and below. He has never seen any benefit from cold applications and has witnessed direct harm result from immobilization. He even treats gonorrheal prostatitis in the same way, with hot cataplasms to the perineum. In case of gonorrheal epididymitis, he commences with the ice-bag, changing to suspension and compresses of lead water, then to the Priesnitz, and then to the hot cataplasms. He has observed that too prolonged use of cold applications is apt to leave extensive indurations in the epididymis.

Gazzetta degli Ospedale (Milan), August 5 and 12.

Antidiphtheria Serum in Pertussis. R. INDICA.—In seven cases of severe whooping-cough an injection of 10 c.c. of antidiphtheria serum had a marked effect in ameliorating and abbreviating the disease. The effect is similar to that obtained in diphtheria; the resisting powers of the organism are evidently increased.

August 12.

Surgery of the Cerebral Ventricles. A. MONTINI.—A child 3 years of age presented a typical case of chronic hydrocephalus and progressive idiocy with frequent convulsions, the parents and other children being robust. Montini trephined and drained the ventricle, removing 350 gm. of cerebrospinal fluid. The child had a violent convulsion and sank into coma, but after artificial respiration and other measures had been employed the benefits of the intervention were soon apparent in the complete cessation of the convulsions and convergent strabismus and control of the simple and co-ordinated movements.

Disarticulation of the Hip. E. DOMINICI.—The method proposed by Dominici, which he has found a great improvement over other methods of disarticulating the hip-joint, is to make a longitudinal incision above the great trochanter down to the bone, after exsanguinating the leg as much as possible. The head of the femur is then slipped from the aceta-

bulum, passed out through the incision by twisting the limb and held in that position by an assistant. The soft parts are thus left without any bone and a strong elastic ligature is passed around them under the protruding bone. The limb is then amputated as required and the vessels ligated separately. The shoulder is treated in a similar way.

Vratch (St. Petersburg), July 8.

Plant Extracts React to Florence Sperm Test. D. L. DAVIDOFF.—The substance in human semen which produces the characteristic reaction in the Florence test exists also in numerous plants, as similar crystals are produced by the action of the Florence reagent on aqueous extracts and also on the pollen and anthers of certain plants. The list Davidoff has tested is a long one and includes the chrysanthemum, hyacinth and varieties of tulips, with numerous dried medicinal herbs and the male flower of the maple. A drop of any of their extracts or infusions will simulate a drop of human spermatic fluid in its reaction to the Florence test, and he warns medical experts of the possibility of error from this cause in their deductions. Mistakes are especially liable to occur with home-made infusions of chamomile, elder and secale, which are in such common use, and in his experiments responded typically to the Florence reaction after having been dried on a cloth for two months. He also states that the cholin crystals obtained with silver oxid from the blossoms of the taraxacum, elder, etc., were more abundant and more characteristic than those derived from the yolk of an egg with either ether, alcohol, platinum chlorid or silver oxid.

Renal Lithiasis Cured with Uresin. I. B. KUDINZEFF. Uresin or urotropinum dilithiocitricum has been unfailingly successful in the treatment of kidney gravel in Kudinzeff's experience. It not only abolishes the gravel and with it the irritation of the urinary passages, but also reduces the amount of uric acid in the urine and alters the elements that have been the factors in the production of the calculi. Relief is promptly evident after its administration and he has never had any cause for regretting its use in any way, but is becoming more and more impressed with its value the wider his experience. It is a combination of urotropin, lithium and citric acid.

Change of Address.

B. A Becker, 2612 W. Main St., Louisville, Ky., to Silver Lake, Wis.
Carl Booth, Carlow, to Barnes Medical College, St. Louis, Mo.
C. J. Beise, Tracy to Fergus Falls, Minn.
S. Brownstein, 16 Johnson, to 374 S. Halsted St., Chicago.
W. A. Bieringer, 104 Warren to 1903 Milwaukee Ave., Chicago.
L. M. Berg, 2032 Michigan to 2516 Indiana Ave., Chicago.
S. E. Cook, 1215 Ohio St., to Richards Blk., Lincoln, Neb.
H. P. Chesmore, Nodaway, to 823 Charles St., St. Joseph, Mo.
J. W. Crismond, 1333 Central Ave., to 1217 Meridian St., Anderson, Ind.
M. Crichton, 922 14th St., to 1141 Connecticut Ave., Washington, D. C.
R. R. Campbell, 204 Dearborn St., Chicago, to Phoenix, Ariz.
D. W. Detwiler, 2400 Dearborn St., Chicago, to Moravia, Iowa.
C. L. Dutton, Goldfield, to Boulder, Col.
Ralph Elmergreen, 327 3rd St., to 786 Twelfth St., Milwaukee, Wis.
A. E. Ford, Box, 949 Denver, Col., to Box 1250 Seattle, Wash.
J. L. Fleming, Dyersburg, to Jack's Creek, Tenn.
L. F. Foote, Elgin, Ill., to 125 W Lake St., Minneapolis, Minn.
G. R. Fox, P. O. Box 219, Plaquemine, to Moreauville, La.
A. U. Fuson, Stockton, to 3153 24th St., San Francisco, Cal.
J. S. Gashwiler, 1514 Michigan St., Kansas City, to Novinger, Mo.
H. F. Goodwin, 511 Ashland Boul., to 682 E. 44th St., Chicago.
R. F. Godard, Hazlehurst, Ga., to Citra, Fla.
T. A. Groover, Pidcock, Ga., to 1331 L St. N. W., Washington, D. C.
J. V. Hunter, Nimrod, to Waxhaw, N. C.
A. Hood, Lawndesboro, to Daleville, Ala.
J. P. Lakey, Daugherty, to McCullough, Tex.
R. B. Main, 2009 Massachusetts Ave., Washington, D. C., to Linden, Va.
I. T. McCarty, Kingston Center, to Constan, Ohio.
George M. Marshall, 26 S 3rd St., to 1273 N. High St., Columbus, Ohio.
W. T. Moffett, 346 State St., Jacksonville, to Blue Mound, Ill.
C. F. Osborne, Hanlontown, to Aredale, Iowa.
Vance Offut, Bedford, to Campbellsburg, Ind.
E. W. Peet, 20 W. 43rd St., to 348 Central Park W., New York City.
Emma S. Powell, La Crew, to Baker Blk., Ottumwa, Iowa.
J. P. Prestley, 1266 Congress, to 1273 Van Buren St., Chicago.
H. M. Pomeroy, 650, to 950 W. Washington St., Los Angeles, Cal.
E. S. Riggs, Hamill's Point, Muskoka, Can., to 38 Prospect Ave., Washington, Pa.
Walter E. M. Ranchous, 20 S. 3rd, to 1273 N. High St., Columbus, Ohio.
J. B. Shober, 112 S. 17th to 1731 Pine St., Philadelphia, Pa.
R. M. Straw, Milton Center, to Cygnet, Ohio.
W. H. Seton, Emmitsburg, Md., to 168 W. 96th St., New York City.
J. D. Tuten, Jr., Cooper, La., to Jasper, Fla.
C. S. Venable, Charlottesville, Va., to Pall Mall Am. and Col. Exchange, Carlton and Regent Sts., London, S. W., England.
F. V. Watson, 4658 State St., Chicago, to Antigo, Wis.
H. M. Williams, Oklahoma City, to Cushing, O. T.

Queries and Minor Notes.

THE HIPPOCRATIC OATH.

BALTIMORE, MD., Aug. 5, 1900.

To the Editor:—Will you inform me if you can supply me with a copy of the "Hippocratic Oath?" If so, please give price and description of same; if you have not a copy, kindly inform me of some place where I can get it. Yours truly, C. K. Y.

ANS.—The "Hippocratic Oath" has been published many times; it is given in full in Dunglison's Practitioner's Ready Reference Book, and in several encyclopedias. It is too long to reproduce here.

MEDICAL LAWS.

ONEIDA, TENN., Aug. 19, 1900.

To the Editor:—Will you kindly give me the laws regulating the practice of medicine in Indiana, regarding state boards and graduates from a three-year school? Very respectfully, J. A. S.

ANS.—Applicants for license to practice medicine in Indiana must be *bona fide* residents of the county and state, must procure the necessary application blank from the county clerk, which, properly filled, with the diploma and a fee of $10, must be sent to the State Board of Medical Registration, Room 120, State House, Indianapolis. If satisfactory, the Board will issue its certificate, which, on presentation to the county clerk, will entitle the applicant to a license. If not satisfactory an examination must be passed, the fee for which is $25. The Board has recently passed a resolution "that no applicant from any other state for a certificate shall be granted one on conditions more lenient than those required of applicants from Indiana by the examining board of the state from which he comes." An applicant from Tennessee would, therefore, probably have to pass an examination. For further particulars, address Dr. W. F. Curryer, Secretary of the State Board of Registration, Indianapolis, Ind.

NEW YORK, Aug. 28, 1900.

To the Editor:—Kindly inform me of the laws in regard to the practice of medicine in the states of Wisconsin and Michigan. Yours truly, M. A.

ANS.—The essential points in the medical practice law of Wisconsin were given in THE JOURNAL of April 7, p. 893, and those of Michigan in the number of July 28, p. 265. The inquirer is referred to these issues.

RED CROSS MEDICAL ASSOCIATION.

PEORIA, ILL., Aug. 25, 1900.

To the Editor:—Will you please inform me as to what you know concerning the Red Cross Medical Association? What success have they had in the East? You will do me a great favor if you answer at once. Yours, E. H.

ANS.—As we understand our correspondent's question, he refers to an organization designed to supply medical attendance to subscribers. From looking it up it appears to us to be simply lodge practice, and THE JOURNAL has repeatedly expressed its editorial opinion against this. So far as we know, the organization has not extended very far in any part of the country, and we should hope it will not become popular, as it seems to us merely a scheme for making money out of the medical profession. Our knowledge is confined to newspaper articles and one or two of its circulars.

LITERATURE ON DIETETICS AND HYDROTHERAPY.

BODIE, CAL., Aug. 11, 1900.

To the Editor:—Will you kindly inform me of a good work or magazine on dietetic literature and hydrotherapy? Sincerely, J. E. C.

ANS.—We do not at present recall any prominent work or magazine specially devoted to these two subjects alone. There are several journals devoted more or less to dietetics, some of them advocates of fads. There are none that we could specially recommend in all respects.

KNAPP'S ARCHIVES OF OTOLOGY.

NEW WASHINGTON, OHIO, Aug. 27, 1900.

To the Editor:—Please inform me where *Knapp's Archives of Otology* is published, and price of same. Very truly, A. E. L.

ANS.—*Knapp's Archives of Otology* is published by G. P. Putnam's Sons, 27 and 29 W. 23rd St., New York, price, $4 per year.

HOSPITAL CONSTRUCTION.

SHREVEPORT, LA., Aug. 20, 1900.

To the Editor:—Please recommend to me some of the standard works on "The buildings, constructions, arrangements and maintenance of hospitals," and oblige, J. A. S.

ANS.—We do not know of any recent general work on the subject published in this country. Burdett's Hospital Annual, which goes under this name, though the title varies, is perhaps the

best general manual. Burdett's Hospitals and Asylums of the World, 4 vols., London, J. and A. Churchill, 1891, is a large and expensive work. The volume of essays, published by the Johns Hopkins Hospital some twenty years ago may also be referred to. We refer the inquirer also to an article by Dr. McDill, in THE JOURNAL of January 21, 1899.

CLEANLINESS OF BARBERS' INSTRUMENTS.

ISHPEMING, MICH., Aug. 29, 1900.

To the Editor:—I think I have seen in THE JOURNAL lately, but I can not say where, some articles on the subject of cleanliness of instruments, etc., of barbers. If you can tell me where I can find anything on the subject I would be much obliged. Very truly yours. T. A. F.

ANS.—We have not published any articles recently on the subject you mention, but we have editorially noticed the subject during the past year or two. You will find articles, notably one by A. W. Suiter, of Herkimer, N. Y., in the Proceedings of the American Public Health Association. His article was read in 1897 and has probably excited as much interest as any, though it is a short one. There have been laws regarding the barber trade passed in several states, Minnesota, Nebraska and Missouri, for example, and possibly others. Dr. Suiter's article was abstracted in the Proceedings of the Public Health Association in volume xxix, p. 1070, of THE JOURNAL, Nov. 20, 1897.

GLANDULAR TREATMENT OF HAY FEVER.

LA HARPE, ILL., Aug. 29, 1900.

To the Editor:—Will you please tell me where I can get any literature on the treatment of hay-fever by the thyroid or suprarenal extracts? Have you any reprints of Dr. Beaman Douglas on this subject? Yours truly, J. C. A.

ANS.—The literature on suprarenal extract is comparatively recent. The inquirer is referred to a paper of Dr. Bates in THE JOURNAL of August 11, and to that of Dr. Murphy in the *Lancet-Clinic* of April 7 (abstracted in THE JOURNAL of April 21, p. 993); of Dr. Aldrich, *Medical Standard* September, 1899 (abstracted in THE JOURNAL of Sept. 23, p. 786); of Dr. Bulette, *Denver Medical Times*, November, 1899 (abstracted in THE JOURNAL of Nov. 25, p. 1349), etc. Dr. Beaman Douglas' paper, also abstracted in THE JOURNAL of Sept. 9, 1899, p. 660, was published in the *New York Medical Journal* of Sept. 2, 1899. It may be that a reprint can be obtained by application directly to the author. See also our advertising pages.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., August 8 to 21, 1900, inclusive:

George F. Adair, acting asst.-surgeon, now at Fort Sheridan, Ill., to report to the commanding officer of that post for duty with the 5th Infantry, under orders for foreign service.

W. Edson Apple, acting asst.-surgeon, leave of absence granted, on the expiration of which he will report at San Francisco, Cal., for duty with troops for foreign service.

Orlando Ducher, major and surgeon, Vols., former orders amended so as to direct him on expiry of his present leave of absence to report by letter to the Surgeon-General.

Harry C. Gemmill, acting asst.-surgeon, from Fort Thomas, Ky., to accompany the 2d Infantry, under orders for foreign service.

J. Randolph Harmer, acting asst.-surgeon, from Washington, D. C., to Fort Fremont, S. C., for post duty.

Philip F. Harvey, major and surgeon, U. S. Army, from the Presidio of San Francisco, Cal., to Nagasaki, Japan, to establish a base hospital at that place.

John Van R. Hoff, major and surgeon, U. S. Army, to proceed without delay to Taku, China, and report in person to Major-General Adna R. Chaffee, U. S. Vols., for duty as chief surgeon on his staff.

Alvis B. Kennedy, acting asst.-surgeon, former orders directing him to proceed to San Francisco, Cal., to accompany troops on foreign service revoked.

Thomas J. Kirkpatrick, Jr., lieutenant and asst.-surgeon, U. S. Army, member of a board at Washington Barracks, D. C., to examine candidates for appointment as second-lieutenants in the Army.

Edward E. Lambkin, acting asst.-surgeon, previous orders amended so as to direct him to proceed from Baltimore, Md., instead of from St. Louis, Mo., to the Department of California.

Edward L. Munson, captain and asst.-surgeon, U. S. Army, member of a board at Washington Barracks, D. C., to examine candidates for appointment as second-lieutenants in the Army.

Arthur B. Smith, acting asst.-surgeon, from San Francisco, Cal., to the U. S. General Hospital, Fort Bayard, N. M., for temporary duty.

Bat Smith, acting asst.-surgeon, now at Fort Sheridan, Ill., to proceed to Wharton, Tex., for annulment of contract.

Benjamin B. Warriner, acting asst.-surgeon, from Fort Fremont, S. C., to San Francisco, Cal., for duty with troops going on foreign service.

James A. Alexander, acting asst.-surgeon, leave of absence granted.

Irvin E. Bennett, acting asst.-surgeon, from duty in the Department of Porto Rico to San Francisco, Cal., for duty with troops en route for China.

George M. Bradfield, acting asst.-surgeon, from Fort Ontario, N. Y., to Philadelphia, Pa., for annulment of contract.

Ira C. Brown, major and surgeon, Vols., leave of absence extended.

Edward T. Comegys, major and surgeon, U. S. Army, from San Francisco, Cal., to Nagasaki, Japan, as medical supply officer at that place.

Alfred C. Godfrey, acting asst.-surgeon, from Fort Washakie, Wyo., to San Francisco, Cal., for duty with troops destined for foreign service.

Guy C. M. Godfrey, captain and asst.-surgeon, U. S. Army, previous orders directing him to report for duty in the Philippines suspended.

Lewis A. Griffith, lieutenant and asst.-surgeon, 42d Infantry, Vols., having tendered his resignation is discharged from the service of the U. S., to take effect August 20, 1900.

Charles W. Hack, acting asst.-surgeon, from the Department of Dakota to duty at Columbus Barracks, Ohio.

Aubray F. Higgins, acting asst.-surgeon, from the Department of California to duty with troops going on foreign service.

Herbert M. McConathy, acting asst.-surgeon, from duty in the Department of Porto Rico to Washington Barracks, D. C., for duty with Battery M, 7th Artillery, en route to San Francisco, Cal., for foreign service.

Henry E. Menage, acting asst.-surgeon, previous orders amended so as to require him to proceed from New Orleans, La., to Fort Wingate, N. M., for duty.

Charles B. Nichols, acting asst.-surgeon, from Fort Wingate, N. M., to San Francisco, Cal., for duty with troops going on foreign service.

Auguste A. Nonel, acting asst.-surgeon, from Fort Leavenworth, Kan., to New York City, N. Y., for annulment of contract.

Lieven de Poorter, acting asst.-surgeon, now in New York City, N. Y., on expiry of his leave of absence to proceed to New Orleans, La., for annulment of contract.

Benjamin F. Pope, lieutenant-colonel and deputy surgeon-general, U. S. Army, and Samuel O. L. Potter, major and surgeon, Vols., members of a board convened in San Francisco, Cal., to examine candidates for appointment as second-lieutenants in the Army.

Dwight C. Powell, acting asst.-surgeon, from Logansport, Ind., to Fort Thomas, Ky., for duty with the battalion of the 2d Infantry, under orders for foreign service.

James F. Presnell, acting asst.-surgeon, now at Fort Leavenworth, Kan., for duty with the 1st Infantry, under orders for foreign service.

Merton A. Probert, acting asst.-surgeon, from Constantia to Columbus Barracks, Ohio, for temporary duty.

Willis J. Raynor, acting asst.-surgeon, from Denver, Colo., to Fort Washakie, Wyo., for post duty.

M. A. Rebert, acting asst.-surgeon, leave of absence granted.

William E. Richards, lieutenant and asst.-surgeon, U. S. Army, from the Department of Porto Rico to post duty at Plattsburg Barracks, N. Y.; a subsequent order sends him instead to Fort Ontario, N. Y.

Henry A. Shaw, captain and asst.-surgeon, U. S. Army, from the General Hospital at San Francisco, Cal., to Nagasaki, Japan, for duty at the general hospital to be established there.

W. I. Tanner, acting asst.-surgeon, leave of absence granted.

Dwight B. Taylor, acting asst.-surgeon, from Columbus Barracks, Ohio, to Fort Thomas, Ky., to accompany troops to San Francisco, Cal., returning thereafter to his proper station.

Albert E. Truby, lieutenant and asst.-surgeon, U. S. Army, former orders amended so as to grant leave of absence, on the expiration of which he will proceed from New York City to Havana, Cuba, for assignment in the Division of Cuba.

The following acting asst.-surgeons to proceed from the places designated to San Francisco, Cal., for assignment to duty with troops destined for foreign service: Howard H. Bailey, Washington, D. C.; Louis Brechemin, Jr., Philadelphia, Pa.; William C. Mabry, Cleveland, Ohio; Clemens W. McMillan St. Louis, Mo.; Robert E. Noble, New York City, N. Y.; Lorin B. Ohlinger, Alleghany, Pa.; Joseph A. O'Neill, New York City, N. Y.; Luke B. Peck, Brookline, Mass.; John A. Rafter, West Winfield, N. Y.; William Roberts, Washington, D. C.; J. Ralph Shook, Greencastle, Pa.; Charles A. Sturtevant, West Somerville, Mass.; Henry J. Watson, Ottumwa, Iowa; George Wilklow, Ellenville, N. Y.; John D. Brooks, Washington, D. C.; William E. Cass, St. Louis, Mo.; L. d'Orville Chabut, Youngstown, Ohio.; George R. Clayton, Nevada, Iowa; William J. Condon, Jamesburg, N. J.; Harry A. Cossitt, Morris Plains, N. J.; U. S. Grant Deaton, Thackery, Ohio; Paul R. Fletcher, St. Louis, Mo.; Jacob F. Hadley, Passaic, N. J.; A. Bruce Henderson, Batavia, Mich.; Gustavus I. Hogue, North Lake, Wis.; William V. Kellogg, Detroit, Mich.; Frederick A. Lewis, Walworth, N. Y.; Howard D. Lewis, Baltimore, Md.; James I. Mabee, Rockwood, Mich.; Robert C. Macy, Mobile, Ala.; R. Boyd Miller, Lamar, Mo.; George S. Mintzner, Philadelphia, Pa.; Edwin W. Patterson, Washington, D. C.; Louis J. Perkins, Pendleton, Ore.; Willard D. Preston, Attica, N. Y.; James A. Rabbett, Elkins, W. Va.; George A. Renn, Raleigh, N. C.; James C. Rutledge, Detroit, Mich.; Charles F. Sanborn, Willard, N. Y.; C. Edward Sears, Salem, Va.; Joseph F. Siler, New York City, N. Y.; Calvin D. Snyder, Baltimore, Md.; Lewis H. Wheeler, Westport, Conn.; William A. Wickline, Warm Springs, Mont.

New Patents.

Changes in the Medical Corps of the U. S. Navy for the week ending Aug. 25, 1900.

P. A. Surgeon L. L. Von Wedekind, ordered to temporary duty at the headquarters of the Marine Corps, Washington, D. C., August 22, and then to the *Richmond*

Medical Inspector J. R. Waggener, transferred from the naval hospital, Cavite, P. I., to the naval hospital, Yokohama, Japan, for treatment.

Surgeon G. Pickrell, detached from the naval hospital, Yokohama, Japan, and ordered to the Cavite Naval Station.

Surgeon O. D. Norton, detached from the *Monocacy* and ordered to duty with the marine regiment in China.

Pharmacist S. W. Douglass detached from the *Massasoit* and ordered to the Key West Naval Station immediately.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the United States Marine-Hospital Service for the seven days ending Aug. 23, 1900:

Surgeon George Purviance, to report at Washington, D. C., for special temporary duty; thence to proceed to Baltimore Quarantine Station as inspector.

Surgeon H. R. Carter, granted leave of absence for twenty days from Aug. 24.

Surgeon J. H. White, to proceed to Baltimore Station as inspector.

Surgeon W. P. McIntosh, granted leave of absence for seven days.

Asst.-Surgeon A. R. Thomas, granted leave of absence for one month from Sept. 15.

Asst.-Surgeon L. E. Cofer, granted leave of absence for one month and ten days from Sept. 21.

Acting Asst.-Surgeon B. J. Brown, granted leave of absence for fourteen days from Aug. 12.

Acting Asst.-Surgeon W. W. McKay, granted leave of absence for four days.

Acting Asst.-Surgeon Lee W. Staton, granted leave of absence for ten days from Aug. 12.

Hospital Steward J. V. LaGrange, granted leave of absence for ten days from Sept. 11.

APPOINTMENT.

George A. Morris, of Michigan, appointed junior hospital steward Aug. 15, 1900.

Health Reports.

The following cases of smallpox yellow fever, cholera, and plague, have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended Aug. 25, 1900:

SMALLPOX—UNITED STATES.

Alaska: Cape Nome, Aug. 18, 6 cases.
California: Oakland, July 7-14, 2 cases.
Kansas: Wichita, Aug. 11-18, 2 cases.
Louisiana: New Orleans, Aug. 11-18, 5 cases, 7 deaths.
Massachusetts: Lowell, Aug. 11-18, 2 cases.
Minnesota: Minneapolis, Aug. 11-18, 2 cases; Winona, Aug. 7-21, 7 cases.
New York: New York, Aug. 11-18, 1 case.
Ohio: Cincinnati, Aug. 10-17, 5 cases; Cleveland, Aug. 11-18, 12 cases; Dayton, Aug. 11-18, 6 cases; Portsmouth, Aug. 11-18, 1 case.
Utah: Salt Lake City, Aug. 11-18, 1 case.
Washington: Tacoma, Aug. 4-11, 1 case.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, June 30-July 13, 13 deaths.
Costa Rica: Port Limon, Aug. 8, 1 case.
England: Liverpool, July 31-Aug. 4, 7 cases; London, July 21-Aug. 4, 18 cases.
France: Lyons, July 22-29, 1 case; Paris, July 14-Aug. 4, 5 deaths.
India: Bombay, July 10-24, 11 deaths; Calcutta, July 7-21, 26 deaths.
Malta: June 16-30, 11 cases, 1 death.
Mexico: City of Mexico, Aug. 5-12, 3 cases, 3 deaths; Vera Cruz, Aug. 4-11, 1 death.
Russia: Moscow, July 21-28, 2 cases.
Spain: Madrid, June 30-July 28, 77 deaths.
Straits Settlements: Singapore, June 30-July 7, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, June 30-July 13, 13 deaths.
Cuba: Cienfuegos, Aug. 17, 1 case.
Colombia: Bocas del Toro, July 20-Aug. 3, 4 cases, 2 deaths: Panama, Aug. 6-13, 3 cases, 1 death.
France: Havre, Aug. 9, on Steamship *Cararalles*, from Senegal, Africa, 1 case.

CHOLERA.

India: Bombay, July 10-17, 239 deaths; Calcutta, July 7-21, 105 deaths; Madras, July 14-20, 3 deaths.
Japan: Osaka and Hiogo, July 21-28, 1 case, 1 death; Yokohama, July 7-28, 2 cases, 2 deaths.

PLAGUE.

Australia: Sydney, June 30-July 14, 4 cases.
Brazil: Rio de Janeiro, June 30-July 13, 74 cases, 31 deaths.
India: Bombay, July 10-17, 60 deaths; Calcutta, July 7-21, 107 deaths.
Japan: Formosa, June 21-July 12, 82 cases, 63 deaths.

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